BULLETIN

OF THE

TORREY BOTANICAL CLUB.

Vol. I.] New-York, January. 1870. [No. I.

1. **Prefatory.**—The object of this Bulletin is primarily to form a medium of communication for all those interested in the Flora of this vicinity, and thus to bring together and fan into a flame the sparks of Botanical enthusiasm, at present too much isolated. An attentive study of plants in their native haunts is essential to the advance of the science, and in this respect the local observer has an advantage over the explorer of extensive regions, or the possessor of a general herbarium. He can note the plant from its cradle to its grave; can watch its struggles for existence, its habits, its migrations, its variations; can study its atmospheric and entomological economies; can speculate on its relations to the past, or experiment on its utility to man. It would be in vain to attempt to enumerate all the points about which a lover of vegetable nature can learn and report something new. Botany, like every other science, far from being exhausted, is ever widening its field. We hope, therefore, to have no lack of interesting communications, not only from deep investigators, but from all who meet with interesting facts,—for we wish it to be distinctly understood, that we have chiefly in view the development of a greater Botanical interest in our neighborhood, and found our hopes of success as much upon learners as upon the learned.

While the Bulletin will be chiefly devoted to the local Flora of New-York, it will not exclude matters of general Botanical interest, of which we hope correspondents will keep it informed.

Such papers of value as are too long for the regular sheet, will be issued in a supplement of from two to four pages at a time.

The terms upon which the Bulletin can be issued will depend upon the number of its supporters. We suppose at present that we can furnish each of thirty subscribers at five dollars a year with ten copies, but must wait for a little experience. If we find it favorably received, we are not without hope of insuring it a permanency, which of course it ought to have. But of this we purpose to speak hereafter.

2. New Catalogue.—A revised catalogue of the plants, native and naturalized, within thirty-three miles of New-York, has been for some time in contemplation; but without the co-operation of those who herborize in all the different regions of our district, it must be necessarily incomplete. We wish those who know of observers, not yet in communication with the Club, would furnish us with their P. O. address. In order to make the Catalogue more serviceable and authentic, it is desirable to have specimens of plants from all our districts preserved in a herbarium by themselves for reference. This herbarium will at present be formed and kept at Dr. T. F. Allen's, No. 3 East 33d-street. Dr. Allen and Mr. P. V. Le Roy will act as curators, and take charge of exchanges or contributions in this connection. It is estimated that about half the number of plants in Gray's Manual are to be found within our precincts. Some, which are supposed to have disappeared, or have not been recently found, it is hoped may be re-discovered. *Lepedium Draba*, *Clitoria Mariana*, *Corema Conradii*, and *Azolla Caroliniana*, are among the number. The revised Catalogue should be accompanied with a map showing the formation of the districts and the plant distribution.

3. The Œnothera of Montauk Point, Long Island.—In July of this past summer I twice traveled the entire length of this remarkable point of land, exploring its Botany very carefully.

Vegetation is very stunted except in a few sheltered spots. For about ten miles an *Œnothera* is quite abundant, whose habit differs remarkably from any *Œnothera* we have in this section. It has very numerous and large flowers, with widely-spreading petals, making the plant very conspicuous.

It lies flat on the ground, its branches, which are covered with a profusion of showy flowers, spreading in every direction. The plant has a perennial root, and very short, woody trunk; it seldom attains an elevation of two or three inches; the whole plant is roughened with closely-appressed rigid hairs, which give the pods an almost hoary appearance. The leaves are long and narrow, long-tapering at the base, and appear petiolate, though really sessile, and are slightly and sparingly toothed. The pods have a long, tapering base, and an abrupt, club-shaped extremity, which is broadly four-winged at the sides, the wings either continuing to the very apex, or becoming smaller and almost obsolete at the apex. This mark I find depends upon the age of the pods; when young, the wings seem very broad to the apex; when older, and filled out internally, the wings seem narrower at the apex.

At East Hampton this form occurs in low, grassy places near the beach, sometimes strictly prostrate and hiddden in the grass; sometimes quite erect; and in the low pines and oaks, half a mile from the beach, it occurs with the typical *Œ. fruticosa*, and cannot be distinguished from it in any thing except its more spreading habit.

After comparison with an original specimen of *Œ. linearis*, var. *β*., in Dr. Torrey's Herbarium, the plant I gathered is found to be the same. (Indeed, there is no other *Œnothera* on Montauk Point that I could find.) It differs from the Southern *Œ. linearis* more than from our own *Œ. fruticosa*.

I am inclined to believe, from its habit and apparent gradation into *Œ. fruticosa*, that the plant should be referred to that species, and labelled *Œnothera fruticosa, L.* var. *humifusa.* T. F. A.

4. **Solanum Fendleri**, Gray.—At a late meeting of the Club, Mr. Bower exhibited some small tubers of this Solanum, raised in his garden. They were about the size of large peas. Mr. Bower sends us the following account of them:

"Dr. Torrey very kindly sent me six small tubers, I suppose from native plants, growing wild in New-Mexico.

"Dr. Torrey, in his note, says: 'It has been thought that as *S. tuberosum* bears only small tubers in its natural state, those by cultivation may give a like favorable result.'

"I planted them in different situations, and from one tuber I gathered twelve, but no larger in size. The plant has a habit of sending underground shoots some distance, then sending up stems above ground, which, I think, is not the case with *S. tuberosum.*

"In one instance the upright shoot came out of the top of a small mound composed of rotten wood, stones and soil, where I have *Polypodium incanum* growing, four feet from where the tuber was planted.

"As I know something of its habits, I shall pay more attention to it next year.

"William Bower, 53 Fulton-street."

5. **Epigæa Repens**, L.—This plant is found sparingly on Staten Island. The nearest point to the city, I believe, is Huguenot Station on the Staten Island Rail-Road. Is there any other station nearer or more accessible where it grows in sufficient abundance to justify a May-flower party? In relation to Epigæa, Mr. Thomas Hogg reports that he has seen it gathered in Japan, where also *Brunella vulgaris* is common. The latter is likewise a native of Europe.

W. H. L

6. **Aristolochia Serpentaria**, L.—Mr. Wm. Bower has in his garden, in Newark, a plant of this species, which, besides the regular flower, sends up a number of small buds with flowers that do not open, somewhat in the manner of *Specularia perfoliata*, probably for self-fertilization. The same kind of flowers may be observed in the case of many well-grown wild plants of this species. These flowers, however, form perfect seed pods. The subject requires further investigation. It would be interesting to examine whether *Asarum Canadense* has also two sorts of flowers. Mr. Bower was the first to call my attention to this peculiarity, and I cannot learn that it has ever been noticed before. Judging from the plants I have seen, it would appear that seeds in greater abundance, and perhaps more perfect, are produced by these hermaphrodite flowers. Mr. Bower will have an opportunity next summer to test this point. In the similar case of *Amphicarpæa monoica*, Nutt, I have found sometimes quite a number of pods with apparently well-formed seed. On the

other hand, *Apios tuberosa*, Mœnch, seems to compensate by its tubers for the very frequent abortion of its pods. These plants, with others, *Specularia*, for example, afford an interesting subject for investigation on this point. W. H. L.

7. **Lemna Valdiviana**, Philippi, (L. Torreyi, *Austin*) grows in ponds near Patchogue, Long Island. Its habit is very similar to *L. trisulca*, growing under water in masses. I have found only sterile plants. T. F. A.

8. **Nasturtium palustre**, L.—The typical form (smooth, with oblong pods) seems to be quite common about New-York, especially along the Harlem Rail-Road; it is more abundant than the hispid variety. T. F. A.

9. **Arabis lavigata**, *DC.*, grows in abundance on the low, rocky ground just southeast of Yonkers.

10. **Hesperis matronalis** seems thoroughly established, especially in the ditches along the rail-roads. T. F. A.

11. **Bromus sterilis**, L., is very abundant along the Hudson River R. R., from Manhattanville to Yonkers. It comes very early and lasts but a short time; only dead specimens can usually be obtained after June. T. F. A.

12. **The Varian "Sycamore,"** more properly Plane-tree, which stood on the west side of Broadway, between 26th and 27th streets, was cut down the first week in November. Its diameter was more than four feet near the ground. Just at the street level there was a hollow place on one side, but on the whole it seemed remarkably sound. Some one might give us a history of the stately old giant. Two young observers who counted the rings made out 95, but the roughness of the sections made accuracy difficult.

13. **Polymnia Uvedalia**, L.—Dr. T. F. Allen found a small patch of this plant near the Weehawken Ferry in 1864. It was still to be found there this summer, but in danger of destruction, with the cliffs that sheltered it. Dr. Gray, by some accident, refers this locality to *P. Canadensis*. There is no doubt about its being *P. Uvedalia*.

14. **Books.**—Dr. Torrey has received "Traité Général de Botanique," by MM. Le Maout and Decaisne, with upwards of 5,500 illustrations by Steinheil and Riocreux.—T. F. A. has Hegelmaier's "Lemnaceen," with 16 plates. He makes three genera, *Wolffia*, (including Griffith's Grantia,) *Lemna*, and *Spirodela*. L. Torreyi, *Austin*, was less perfectly described by Philippi, 1864, and named *Valdiviana*, from Valdivia, in Chili, where it was first found.—W. H. L. has C. K. Sprengel's "Entdeckte Geheimniss," 1793; often quoted by Darwin.

Subscriptions and communications received by W. H. Leggett, 224 E. 10th-street.

15. **Lepidium Virginicum**, L.—That this species should have its cotyledons accumbent, while others of the genus have them incumbent, seems somewhat anomalous. On picking the embryo carefully out of the seed coats, however, I find a conformation that in a measure removes the difficulty. In the species which I have examined, viz., the present, *L. ruderale*, *L. campestre*, and, perhaps, *L. intermedium*, the cotyledons are continued, in the form of petioles, about half way down the radicle; the cotyledons, in fact, being transversely folded upon themselves, as stated and illustrated in Gray's Genera in the case of *Subularia* and *Senebiera*, the genera immediately preceeding *Lepidium*. In the other species of *Lepidium* the plane of division between these petioles, or "radicular" portions of the cotyledons, is parallel to the cotyledons proper, and consequently to the seed partition. In *L. Virginicum* this split is likewise parallel to the partition, and thus the "radicular" portions of the cotyledons, is incumbent, and so far the species is in accordance with its congeners. Where the cotyledons expand into a blade, they are turned sharply at right angles to the partition and become accumbent. If the embryo be held with the edge of the cotyledons towards the eye, it is the left blade which comes from the back of the radicle, and thus has the longer turn to make. *Cakile Americana*, Nutt., resembles *Lepidium Virginicum* in these particulars, except that the "radicular" portion of the cotyledons is relatively much shorter, and in one instance I found the blades of the cotyledons almost spirally bent over the radicle, so as to pass, as it were, through an incumbent stage.

I have also observed this narrowing of the cotyledons into a petiolar portion, greater or less, in Nasturtium, Cardamine, Arabis, Barbarea, Erysimum, and Raphanus, so far as represented in our local Flora; but in all these genera, the "radicular" split has conformed nearly or quite to the cotyledons, as they are incumbent or accumbent: in Cardamine it is long and somewhat inclined to one side. I borrow the application of the term *radicular* from Gray's Genera, to which admirable work I am indebted for much instruction on the subject of Crucifers. The term, however, when applied to the cotyledons, is open to objections.

Perhaps my experience in picking out the embryos may be of use to beginners, I boil the seeds for a moment in a porcelain saucer over a spirit lamp to soften the coats, and then, with needles inserted in a holder, and a fixed lens, have generally no difficulty in getting at the embryos by picking the coats to make an opening, and then carefully pressing the embryos out. In the case of *Lepidium*, however, there is a difficulty. Immersion, particularly in hot water, causes the mucilage with which the seed coat is charged, to swell and envelop it in a beautiful crystal sphere, much larger than the seed itself. This slippery substance interferes sadly with the handling of the seed. It may be rubbed off, but I find it better to exclude the water by boiling the pods entire. The seed of *L. campestre* has a very thick coat, and can not readily be picked to pieces, but, on account of this very thickness, a good piece may be cut from the end, without injuring the embryo, which may then be squeezed out. Considering how many seeds a well grown *Lepidium*

produces this mucilage might possibly be turned to account; certainly, it is a very pretty object to examine. W. H. L.

16. **Aster Novae-Angliae**, L.—In the last edition of Gray's Manual, mention is made of a white rayed "variety (?)" of this plant in one of the Western States.

On the outlet of Owasco Lake, near the Auburn city water works, I have observed, every autumn since 1862, a large number of plants with white rays, scattered over the fields through several acres. The same plants have white rayed heads from year to year: rays as unmistakably white as those of *Leucanthemum* or *Maruta*. Otherwise the plant has its ordinary appearance. I. H. Hall.

17. **Lobelia syphilitica**, L.—The variety with rose pink flowers, and also that with white flowers, grow between the Hudson R. R. R. track and the water near Kingsland's point, below Sing Sing. I. H. H.

18. **Solea concolor**, Ging.—In July, 1864, east of Tarrytown, about 2½ miles from the Hudson, I found one plant of this species, with pods just emptied of their seeds. I did not then know the plant, though since familiar with it. The only other station, of which I have personal knowledge, is at Mormon Hill, in Palmyra, in the western part of the State. I. H. H.

19. **Dentaria maxima**, Nutt.—Grows in abundance in the woods near Bowery Bay, just beyond the bridge, over which the Astoria and Flushing turnpike passes. Among the thousands of specimens growing there, I failed to detect any which seemed to indicate a close approximation to *D. laciniata;* nor did I notice any difference between the two plants, not yet pointed out. I would suggest that they be cultivated with a view to testing the claims of *D. maxima* to specific distinction. M. Ruger.

20. **Geranium pusillum**, L.—On the upper side of the North Road, leading from Laurel Hill, L. I., and just beyond Betts Av., the sidewalk is elevated, and forms an embankment about three feet high. At the bottom of this embankment *G. pusillum* grows plentifully. It grows also by the barn on the road-side opposite the northern extremity of Cooper's glue factory, Williamsburg. M. R.

21. **Cornus Canadensis**, L.—A small patch of this pretty little plant grows in the piece of woods situated on the north side of Jackson Av., just two miles from Hunter's Point, by the mile-stone. It grows a little distance within the Astoria side of the woods, on the banks of a brooklet. This is, I believe, the only known station on Long Island. M. R.

22. **Books and Journals.**—In Silliman's "American Journal" for January, Dr. Gray evidences his return by a series of interesting notices of recent botanical publications, among them, that of "Pursh's Journal," collected into a little volume of 87 pp. from Meehan's "Gardener's Monthly."....The English Journals, "The Academy," monthly, (25 cts.,) and "Nature," weekly, (12 cts.,) may now be

obtained at Brentano's, 100 Broadway, and, we presume, other periodical depots, and almost always contain interesting botanical intelligence. The notices of the new "Flora of Middlesex," [London,] are appetizing.

23. Epigæa repens, L.—*Not* scarce at Huguenot station, and probably still nearer the city. G. I. C. On the banks of the Bronx, near Fordham. F. J. B.

24. The mild winter.—Dandelions in bloom in Westchester Co. near Peekskill, the first week in January. L. R. Hepaticas in bloom, and peas two inches high on Long Island, "Evening Post," Jan. 26. We hope correspondents will give us such particulars in regard to the unusual winter, as fall under their notice.

25. Frangula Caroliniana, Gray.—Formerly reported from Secaucus Swamp, N. J., has since been found by Messrs. Bower and Ruger, between Astoria and Flushing, L. I.

26. Torreya Bogotensis.—In the catalogue of J. Linden, Bruxelles, recently received, I find mention of a Torreya which I have not before seen noticed—*T. Bogotensis.* There is nothing to indicate where or by whom it was described and only the remark "A very fine Conifer from the cold regions of the province of Bogota, in Colombia, of a pyramidal form." The other species are *T. taxifolia,* Arn., Florida; *T. Californica,* Torr., California; *T. nucifera,* Zucc., Japan; *T. grandis,* Fortune, Japan. The last named, together with *T. Bogotensis,* must be considered doubtful, until determined by competent authority. GEORGE THURBER.

27. Terms of Subscription.—On the receipt of one dollar, we will send one copy of the Bulletin for a year; seven copies for five dollars, and one extra copy for every additional fifty cents. Those interested had better subscribe for seven or more copies, and distribute them where they may be useful. We desire to reach and to hear from all the surrounding districts. When the receipts justify a reduction of the price, it will promptly be made. Communications should be addressed to WM. H. LEGGETT, 224 E. 10th St.

28. Materials for the Revised Catalogue. (See § 2, p. 2.)—We propose to occupy a portion of each Bulletin, in giving in a condensed form, such information, as we possess relating to our local flora, following the order in Gray's Manual. We hope all interested will aid us, both in correcting errors, and in supplying deficiencies in species, varieties, or localities. *Torr. Cat.* stands for Torrey's Catalogue, 1819.

RANUNCULACEÆ.

CLEMATIS, L.—**C. verticillaris,** D. C.; Haverstraw, *C. F. Austin;* Preakness Mt., N. J., *W. L. Fischer.*—**C. ochroleuca,** Ait.; South Brooklyn station destroyed; abundant about Toad Hill, Staten Island, *T. F. Allen,* 1864.—**C. Virginiana,** L.; very common.

ANEMONE, L.—**A. cylindrica,** Gray; said to be found at New Durham,

but?—**A. Virginiana**, L.; common.—**A. Pennsylvanica**, L.; *Torr. Cat.* station destroyed; Westchester Co., *T. F. Allen;* N. J. *P. V. Le Roy.*—**A. nemorosa**, L.; very common.

HEPATICA, Dill.—**H. triloba**, Chaix.; very common, occasionally 5-lobed.

THALICTRUM, Tourn.—**T. anemonoides**, Michx.; very common, rarely double.—**T. dioicum**, L.; common.—**T. purpurascens**, L., and Var. **ceriferum**, Austin; not uncommon.—**T. Cornuti**, L.; very common.

RANUNCULUS, L.—**R. aquatilis**, L., var. **trichophyllus**, Chaix.; Locust Av., L. I., *M. Ruger;* near Jamaica, *T. F. Allen.*—**R. multifidus**, Pursh; near Greenwood cemetery, the old station, but fated.—**R. alismaefolius**, Geyer; abundant in N. J.—**R. pusillus**, Poir.; *Torr. Cat.*, station at Bloomingdale not recently reported; New Dorp, *T. F. Allen*; Boonton, N. J., *C. F. Austin.*—**R. Cymbalaria**, Pursh; not reported this side of Suffolk Co., L. I.—**R. abortivus**, L.; very common; Var. **micranthus**; abundant along the Palisades with typical form.—**R. sceleratus**, L.—**R. recurvatus**, Poir.; both very common.—**R. Pennsylvanicus**, L.; N. J., not common.—**R. fasciculatus**, Muhl; common.—**R. repens**, L.—**R. bulbosus**, L.—**R. acris**, L.; all very common.

CALTHA, L.—**C. palustris**, L.; common.

TROLLIUS, L.—**T. laxus**, Salisb.; Closter, N. J., *C. F. Austin;* in a creek near Central Av., 3 miles from Mt. Coombs, Westchester Co., *W. L. Fischer.* Near junction of Erie and N. R. R. of N. J., *Jas. Hyatt.*

COPTIS, Salisb.—**C. trifolia**, Salisb.; New Durham; Preakness, *Fischer.*

HELLEBORUS, L.—**H. viridis**, L.; Glen Cove, *I. Coles;* near Brooklyn and Jamaica, *Halsey & Browne* in State Flora, not recently reported.

AQUILEGIA, Tourn.—**A. Canadense**, L.; common.

DELPHINIUM, Tourn.—**D. Consolida**, L.; occasional along road sides.

HYDRASTIS, L.—**H. Canadensis**, L.; shady woods, *Torr. Cat.*, not recently found.

ACTÆA, L.—**A. spicata**, L., var. **rubra**, Michx.; Preakness Mt., *W. L. Fischer;* Inwood, *W. W. Denslow, P. V. Le Roy;* Glen Cove, *I. Coles.*—**A. alba**, Bigel. Not uncommon; with red pedicels, Glen Cove, *I. Coles.*

CIMICIFUGA, L.—**C. racemosa**, Ell.; not uncommon.

A plant of Zanthorhiza apiifolia, L'Her. in the Friends' burying ground at Flatbush was doubtlessly placed there.

MAGNOLIACEÆ.

MAGNOLIA, L.—**M. glauca**, L.; not uncommon in the swamps of N. J., Staten Island, and Long Island.

LIRIODENDRON, L.—**L. Tulipifera**, L.; common.

MENISPERMACEÆ.

MENISPERMUM, L.—**M. Canadense**, L.; common.

BERBERIDACEÆ.

BERBERIS, L.—**B. vulgaris**, L.; Hills, N. Y., *Torr. Cat.*, but not found of late; Glen Cove, *L. Coles;* Bergen Hills, and Red Bank, N. J.

CAULOPHYLLUM, Michx.—**C. thalictroides**, Michx.; Dyckman's woods, Inwood, *Le Roy;* Yonkers, *Dr. Allen;* Pascack, N. J., *C. F. Austin;* Preakness, N. J., *Fischer* and *Pollard.*

PODOPHYLLUM, L.—**P. peltatum**, L.; West Hoboken, *P. V. Le Roy;* Morris, Essex, and Monmouth Co's, N. J.

NYMPHÆACEÆ.

BRASENIA, Schreber.—**B. peltata**, Pursh.; common.

NYMPHÆA, Tourn.—**N. odorata**, Ait.; common.

NUPHAR, Smith.—**N. advena**, Ait.; common.—**N. luteum**, Var. **pumilum**; *Torr. Cat.;* Williamsbridge, Harlem R. R., *T. F. Allen.*

SARRACENIACEÆ.

SARRACENIA, Tourn.—**S. purpurea**, L.; New Jersey swamps; Staten Island, *Le Roy.*

PAPAVERACEÆ.

CHELIDONIUM, L.—**C. majus**, L.; common.

SANGUINARIA, Dill.—**S. Canadensis**, L.; rather common.

FUMARIACEÆ.

ADLUMIA, Raf.—**A. cirrhosa**, Raf.; shady rocky hills, *Torr. Cat.; C. F. Austin*, Palisades.

DICENTRA, Bork.—**D. Cucullaria**, DC.; rather common, except on Long and Staten Islands.

CORYDALIS, Vent.—**C. glauca**, Pursh; rather common.—**C. flavula**, Raf.; Shawangunk Mts., Ulster Co., and probably within our limits, *W. H. Leggett.*—**C. aurea**, Willd.; Inwood, *P. V. Le Roy;* Sufferns, *W. H. Leggett.*

FUMARIA, L.—**F. officinalis**, L.; *Torr. Cat.*, station destroyed, but probably found in waste places elsewhere.

CRUCIFERÆ.

NASTURTIUM, R. Br.—**N. officinale**, R. Br.; common.—**N. sylvestre**, R. Br.; Parsons' Nursery, Flushing; 152d St., next to Trinity Cemetery, *W. H. Leggett.*—**N. palustre**, DC.; common; typical form, vide p. 4, § 8; Var. **hispidum**, Hackensack meadows.—**N. Armoracia**, Fries; not uncommon.

DENTARIA, L.—**D. diphylla**, L.; near King's Bridge, *W. W. Denslow;* Westchester County, *W. L. Fischer;* Tappan, *C. F. Austin.*—**D. maxima**, Nutt.; Bowery Bay, L. I., *M. Ruger.*—**D. laciniata**, Muhl.; Inwood; Hoboken hills etc.; not scarce.

CARDAMINE, L.—**C. rhomboidea**, DC.; common.—**C. pratensis**, L.; swamps, Weehawken, and New Durham, etc., not common.—**C. hirsuta**, L.; common; Var. **sylvatica**, High Bridge, *W. W. Denslow;* Palisades, Hoboken, etc.

ARABIS, L.—**A. lyrata**, L.; common.—**A. hirsuta**, Scop.; Inwood, *Le Roy;* other authorities are given, but without localities, apparently

not uncommon.—**A. laevigata**, DC.; Northern end of N. Y. Island, *W. W. Denslow;* Yonkers, *T. F. Allen.*—**A. Canadensis**, L.; common.—**A. perfoliata**, Lam.; 86th St., East River, sparingly, but abundant along Harlem River, near 6th Avenue, *W. H. Leggett.*

BARBAREA, R. Br.—**B. vulgaris**, R. Br.; very common, but not in *Torr. Cat.*—**B. praecox**, R. Br.; waste ground about Parsons' Nursery, Flushing.

ERYSIMUM, L.—**E. cheiranthoides**, L. Waste grounds, upper part of N. Y. Island, *W. H. L.;* also N. J., *Austin.*

HESPERIS, L.—**H. matronalis**, L.; Weehawken hill sides, *W. H. L.;* and vid. § 10.

SISYMBRIUM, L.—**S. officinale**, Scop.; very common.—**S. Thaliana**, Gaud.; not rare.

BRASSICA, Tourn.—**B. Sinapistrum**, Boissier; common.—**B. alba**, L.; common.—**B. nigra**, L.; common.

DRABA, L.—**D. Caroliniana**, Walt.; (Sandy fields, Canal St. *Torr. Cat.!*) sandy fields, Inwood, *W. W. Denslow.*—**D. verna**, L.; common.

CAMELINA, Crantz.—**C. sativa**, Crantz; fields and waste grounds, Hoboken, Long Island, Inwood etc.

CAPSELLA, Vent.—**C. Bursa-pastoris**, Mœnch; very common.

LEPIDIUM, L.—**L. Virginicum**, L.; very common.—**L. ruderale**, L.; common; not in *Torr. Cat.;* possibly of rather recent introduction. [I first gathered it at Flatbush, about four years ago; but, as it is common now in all directions near the city, it may have escaped notice from its resemblance to the preceding. W. H. L.]—**L. campestre**, L.; common.—**L. Draba**, L.; Astoria station destroyed; not found elsewhere.

CAKILE, Tourn.—**C. Americana**, Nutt.; abundant on sea shore; *Mr. Calverly* reports having found on Coney Island a stray specimen of **C. maritima**, Scop.

RAPHANUS, L.—**Raphanistrum**, L.; not in *Torr. Cat.*, but abundant enough now, at least on Long Island.

CAPPARIDACEÆ.

POLANISIA, Raf.—**P. graveolens**, Raf. Gravesend, L. I., in sand near salt water, *W. H. L.;* Bergen, N. J., *Le Roy.*

VIOLACEÆ.

SOLEA, Ging., D. C.—**S. concolor**, Ging., Tarrytown, *Hall*, (See § 18, p. 6.)

VIOLA, L.—**V. rotundifolia**, Michx.; Morristown, N. J., *W. H. L.;* New Jersey, *Austin;* a specimen gathered in Morrisania, near the Harlem River, *W. H. L.;* not in *Torr. Cat.*—**V. lanceolata**, L.; common.—**V. primulæfolia**, L.; not uncommon, particularly on Staten Island.—**V. blanda**, Willd.; common.—**V. cucullata**, Ait.; very common; Var. **palmata**; common; Var. **cordata**; Preakness Mt., *W. L. Fischer;* petals variegated with white, woods half a mile beyond Greenwood Cemetery, on the Coney Is. R. R., *W. H. L.*—**V. sagittata**, Ait.; common.—**V. pedata**, L.; common.; Var.

bicolor; Inwood, *W. W. Denslow.*—**V. canina**, L., var. **sylvestris**, Regel.; common.—**V. Canadensis**, L.; *Torr. Cat.; Le Roy;* but certainly not common near the city, and, in State Flora, said not to grow below the Highlands.—**V. pubescens**, Ait.; common; Var. **eriocarpa**, Nutt.; not uncommon; Var. **scabriuscula**, Torr. and Gray; New Jersey, *Austin.*—**V. tricolor**, L.; Long Island, State Flora; Hoboken, Bergen, Weehawken, *Torr. Cat., Le Roy, Allen;* Haverstraw, *Austin;* probably all, the var. **arvensis**.

29. Notes on the list of plants.—We gladly report several communications, suggesting corrections or additions to our catalogue. We hope correspondents will remember to send specimens to Dr. Allen, 33 East 33d St., for the Local Herbarium, so that, when the completed catalogue is published, it may have an authentic basis for reference, and verification.

Ranunculus multifidus, Pursh, grows near Flatbush Jail, on the Oaklands side. Last season I found it at Ridgewood, in a small pool, which is now perhaps filled up. M. Ruger.

Trollius laxus, Salisb. The station in Westchester County is erroneously given 3 miles from Mt. Coombs; read McCoombs Bridge.

Magnolia glauca, L. I am a native of North Hempstead, Queens Co., and have botanized in most of the localities between Jamaica and Greenport, but have not seen a plant of Magnolia. It may grow there, but I should like to know who has seen it. O. R. Willis.

We took the locality from Torr. Cat. and the State Flora; but we have not met with the plant on Long Is. ourselves, nor do we find on enquiry, any recent collector who has. It may, however, grow on this end of the island, which, from the discoveries of Mr. Ruger and others, would seem not to have been fully explored. That it is not very uncommon on the south side of Staten Island, or in the Jersey swamps, we can personally vouch. Eds.

30. Communication from I. H. Hall.—If you consider, (as I do,) *Hepatica acutiloba*, DC., a species distinct from *H. triloba*, Chaix., I have to report

Hepatica acutiloba, DC., West Mount Vernon, banks of the Bronx, in company with *Dentaria diphylla*, L., *D. laciniata*, Muhl, and a few other things not as common here as further northward.

In Central and Western New York *H. acutiloba* is the prevailing form; so prevailing, indeed, that I know of but one locality there of *H. triloba*, and that is in Fleming, Cayuga County. The *H. triloba* is more apt to run to bright colors, rose, purple, deep purplish blue, and more often develops scent; while the *H. acutiloba* is most commonly white, or with blush of rose or faint tinge of blue. Transplanted into gardens, the *H. triloba* develops the stronger scent, and keeps its colors brighter. In both forms, both wild and transplanted, I have observed quite a considerable degree of permanence in color from year to year in the same plants. It may be interesting to observe that hardly any of our common wild flowers take more kindly to cultivation than the two Hepaticas, provided they are not put

in a place too hot or sunny. They multiply, the flowers increase in size, and grow double, and develop an odor almost like a bed of sweet violets—which is peculiarly grateful when, as they often do, they come up and blossom through the snow, while the clustering bees make them gently hum, like Virgil's hedge of willows—and the leaves make a most beautiful shining border all summer.

In the woods the Hepaticas are constantly visited by the bees from the hives at home; indeed, they are the first things to start out the bees. I know of one hive in particular, from which the bees regularly go every spring a mile and a half to a patch of woods, to gather honey from the early Hepaticas.

Ranunculus pusillus. Poir, not only grows at New Dorp, but in most of the wet places south of the Staten Island R. R. for some miles each side of New Dorp.

Ranunculus alismæfolius, Geyer, I have found abundantly in Connecticut; Greenwich, Stamford, Norwalk, New Canaan; and I think it must occur in Westchester County.

Ranunculus flammula, L., var. **reptans,** Gray, so common from Niagara in all the waters that empty into the St. Lawrence, I found last July, (1869,) cast on the shore on the south end of Pelopel's Island in the Hudson, opposite Cornwall. It had a fresh flower, but I saw none growing, and do not know whence it came.

Coptis trifolia, Salisb. Grows on Staten Island, south of the R. R., in wet places, between Vanderbilt's Landing and Garrison's, in company with *Trientalis Americana*, Pursh; *Smilacina bifolia*, Ker, etc. I have also seen it near White Plains, and in Connecticut; and frequently along the Hudson River.

Cornus Canadensis, L. I know some patches in the woods near Patchogue, Long Island. Near the same place, in a brackish marsh, is *Utricularia cornuta*, Michx., which I have not seen elsewhere hereabouts, except in the Jersey Pines. I. H. H.

31. **Vinca minor,** L., is pretty thoroughly naturalized on Betts Av. at Laurenceville. It grows for the space of sixty or seventy feet on the road-side. It grows also on Train's Meadow Road, near Jackson Av., where I have seen it, and *Sedum ternatum*, growing for several seasons. M. Ruger.

32. **Æthusa Cynapium,** L. May be found on the bank of the East River, just outside of the northern part of Jones' Woods. It may be found also in the court-yard on the N. E. corner of Lafayette Place and E. 4th St., where it flowered till quite late last fall. A specimen from this place is in the herbarium of the Club. M. R.

33. **Darlingtonia.**—The "American Agriculturist" for March contains a historical notice of *Darlingtonia Californica*, Torr., by Prof. Thurber, with a fine engraving of the plant.

34. **Special Notice.**—We repeat our call upon the friends of the cause to help make us known in all the surrounding districts, wherever a lover of plants is found. Our aim is no temporary gratification, but to do something towards making Botany a permanent institution of New York. W. H. Leggett, 224 E. 10th St.

35. **Hints to Correspondents.**—The season for herborizing has now fairly commenced, when the lover of plants will seize every opportunity to revisit his favorites, and study their habits. This seems a fitting occasion to remind him, that classification, though highly important, is only one branch of Natural History, and that far more may be learned of every species than the meager description proper to the Manual. The ideal local Flora should contain a full account of all the traits and habits of the vegetable world within its limits. There are many facts not to be gathered or but very imperfectly from the fullest herbaria,—facts which no doubt have, many of them, been noticed and stored up, in a scattered way, in the minds of individual observers, but which, being unrecorded, are lost, to the great detriment of science. We look forward to the time when New York shall possess a tolerably complete local Flora, and, with this view, wish to suggest some points, which it is desirable to have reported. First, there is the period of the successive changes in the plant from the opening of the buds and flowers to the fall of the seed and leaves, or decay of the whole plant; and, what is of more consequence than the month or the day, the relative time in comparison with others, particularly of the same genus or orders, and the variations in this respect, in different seasons or localities. We want much fuller information than we have yet about the earlier leaves of plants, and the tendencies of some to drop, and of others to keep their leaves. Secondly, it is necessary to note the geological character of the soil and situation, and whether it be moist or dry, and its exposure. Likewise, what plants are associated together, or seek the shelter, or society of others. Next, the conformation of the flower in reference to its fertilization, and whether the male or female organs are the first to mature; what insects visit or feed on the plants, — and in this let us hope that the votaries of the sister science of Entomology will aid us. Then there are the interesting subjects of the economy of the roots and rootstocks, of the buds, and of the seeds. All monstrosities are worthy of careful consideration, not only as throwing light on general morphology, but on the history of the plant itself. For every species has had a long history, and it is only by the most minute study, with all the concentrated lights of science, that we can hope to get some insight into it. This to many is the chief attraction of the subject, and we must ever, with Colden, the earliest botanist of the State, make it the object and guide of our studies, "rerum cognoscere causas." It should be remembered that farmers and men whose lives are passed in handling plants, have often made interesting observations, and their sympathy may be enlisted to preserve some rare situation.

We see that very much remains to be accomplished, and that those who are disposed to assist, can never want for subject matter. Every one with eyes for vegetable life might become a contributor, and would be gladly welcomed.

36. **Zanthorhiza, Zanthoxylum.**—These barbarous names are credited, the former to Humphrey Marshall of Pennsylvania, the latter to Governor Colden of New York. It would be hard to say whether they have not received more obloquy than honor from being remem-

bered in this connection; we have, therefore, a patriotic as well as a literary interest in having the proper correction made. The English Z is never an equivalent for the Greek X, and the inconsistency of putting a Z in the beginning and an X in the latter part of Zanthoxylum to represent the same Greek letter makes the confusion worse. All other botanical names beginning with X in Greek, are spelled with X, quite a number commencing with this very syllable *Xantho*.

We are aware that there is a canon against changing the initial letter of an established scientific name, but we consider this case a fair exception. Dr. Gray says, in a note we feel at liberty to quote, "As to *Zanthoxylum*, Colden wrote it so, Linnæus adopted it, and most have just followed. But there is no good reason for such orthography and it should have been corrected. *Zanthorhiza* is worse, because, I see, Marshall made it *Xanthorhiza*, so you have double reason. I have made them uniform but wholly unclassical. Bentham and Hooker have followed the original spelling in each case, and spelled one with a Z, the other with an X."—Lindley and the English Botanists generally seem to prefer the X, but on the continent Z prevails. We have always supposed, that Colden wrote "Zanthoxylum," but find in his manuscript, in the possession of Dr. Torrey, that he first describes the plant as a new genus, without giving it a name, and has afterwards inserted, "Zanthoxylum, Catesby."

The spelling of Zanthorhiza reminds us of another point in which inaccuracy is frequent. The word is composed of two elements, *Xantho*, and *rhiza*; now it is an invariable rule in Greek compounds that when the first part ends in a vowel, and the second commences with an *r*, the r must be doubled; and yet we find in authors such inconsistencies as *Corallorhiza*, *polyrrhiza*.

We submit, therefore, that the correct spelling of the names in question is, **Xanthorrhiza, Xanthoxylum.**

37. **Polanisia graveolens,** Raf.—I have found in considerable quantity in rough clefts of the bank above the beach at Long Branch, N. J.
I. H. Hall.

38. **Argemone Mexicana**, L.—Yorkville on First Avenue.—**Reseda odorata**, L. 23d St. and 4th Av. M. Ruger.

39. **Correction.**—Local Herbarium at Dr. *T. F. Allen's*, 3 E. 33d St., instead of 33 E. 33d St.

40. **Flowering of the Darlingtonia.**—Dr. Torrey kindly gave me, early last winter, one of the several specimens of *Darlingtonia*, which he received from a correspondent in California. An empty Aquarium tank was converted into a small conservatory for it, and it was planted in a mixture of swamp mud and sphagnum, the top of the tank being covered with a glass plate. The plant was kept in a cold room, where the moss was slightly frozen several times during the winter. The plant flowered early in April, and the specimen was placed in the hands of Dr. Torrey, to allow him to confirm his original observations, made upon dry materials, and he will probably add what may be necessary to complete the history of this interesting plant.
G. T.

CISTACEÆ.

HELIANTHEMUM, Tourn.—**H. Canadense**, Michx.; common.

HUDSONIA, L.—**H. ericoides**, L.; Tottenville, Staten Island, *Le Roy.*—**H. tomentosa**, Nutt.; abundant along the sea shore, May, June.

LECHEA, L.—**L. major**, Michx.; common.—**L. thymifolia**, Pursh; not uncommon, particularly on the south side of L. I.—**L. Novæ-Cæsareæ**, Austin; not uncommon; abundant at Tottenville, Staten Island, *W. H. L.*—**L. minor**, Lam.; common with numerous variations.

DROSERACEÆ.

DROSERA, L.—**D. rotundifolia**, L.; common.—**D. longifolia**, L.; New Jersey, *Austin:* common in swamps on Long Island, *Coles, Allen.*

HYPERICACEÆ.

ASCYRUM, L.—**A. stans**, Michx.; Long Island, *Le Roy.*—**A. Crux-Andreæ**, L.; South side of Staten Island; South Amboy; Bergen Point, N. J., many years ago I used to find it in the neighborhood of 56th St. and the Hudson River, *W. H. L.*

HYPERICUM, L.—**H. prolificum**, L.; Var. **densiflorum**; South Amboy, *T. F. A.*—**H. adpressum**, Barton; New Jersey, *Austin.*—**H. angulosum**, Michx.; Cedar swamps at Weehawken, *Torr. Cat.*, but not seen of late.—**H. perforatum**, L.; very common.—**H. corymbosum**, Muhl; common.—**H. mutilum**, L.; very common.—**H. Canadense**, L.; very common; Var. **major**; Rockaway, L. I., *W. H. L.*—**H. Sarothra**, Michx.; very common.

ELODES, Adans.—**E. Virginica**, Nutt.; common.

ELATINACEÆ.

ELATINE, L.—**E. Americana**, Arnott; Banks of the Passaic; Ponds, L. I., *T. F. A.;* Westchester Co.; *Mead*, in State Flora; (Hudson R. at Peekskill, *W. H. L.*).

CARYOPHYLLACEÆ.

DIANTHUS, L.—**D. Armeria**, L.; common.

SAPONARIA, L.—**S. officinalis**, L.; common.

VACCARIA, Medik.—**V. vulgaris**, Host.; Newtown Station of the Flushing R. R., *Ruger.*

SILENE, L.—**S. stellata**, Ait.; common.—**S. inflata**, Smith; hill-sides on Staten Island, near the Narrows, *T. F. A.* Spuyten Duyvel, Westchester Co., *W. H. L.;* New York City, *Austin.*—**S. Pennsylvanica**, Michx.; common; still flourishes in its native habitat in Central Park.—**S. Virginica**, L.; reported, but no station named.—**S. Armeria**, L.; New Jersey, *Austin;* occasional by road sides, *W. H. L.*—**S. antirrhina**, L.; common.—**S. noctiflora**; cultivated grounds and road sides, Flushing etc., *W. H. L.;* Inwood, *W. W. Denslow.*

LYCHNIS, Tourn.—**L. vespertina**, Sibth.; in similar situations with *Silene noctiflora.*—**L. Githago**, Lam.; grain fields, common.

ARENARIA, L.—**A. serpyllifolia**, L.; very common.—**A. squarrosa**, Michx.; sandy soil, N. J., *T. F. A.*—**A. lateriflora**, L.; not uncommon.—**A. peploides**, L.; sea shore, Staten Island, Long Island.

STELLARIA, L.—**S. media**, Smith; very common.—**S. longifolia**, Muhl.; New Jersey, *Austin, W. H. L.;* bogs and overflowed woods, *Torr. Cat.;* north of Astoria, *Ruger.*

CERASTIUM, L.—**C. vulgatum**, L.; shady rocks along N. R. R. of N. J. above junction with Erie R. R., *T. F. Allen;* New Jersey, very rare, *Austin.*—**C. viscosum**, L.; very common.—**C. nutans**, Raf.; woods, N. J., *Torr. Cat., Austin.*—**C. oblongifolium**, Torr.; abundant on the hills of Staten Island, not in *Torr. Cat.;* Palisades, N. J.; *Austin, Le Roy.*—**C. arvense**, L.; Fort Lee, *T. F. Allen.*

SAGINA, L.—**S. procumbens**, L.; *Austin;* near Hempstead, *W. H. L.;* "Borders of creeks and springs, and in rather moist sandy soils; on Long Island abundant, also near the city of New York." *State Flora.*—**S. apetala**, L.; *Austin;* dry hill sides, near Manhattanville, *State Flora.*

SPERGULARIA, Pers.—**S. rubra**, Presl., var. **campestris**; abundant along the New Jersey shores.—**S. salina**, Presl.; Coney Island, *F. J. Bumstead;* Maspeth and Canarsie, *M. Ruger.*—**S. media**, Presl.; common on New York and Long Islands, *W. H. L.;* Var. **macrocarpa**, I have a well marked specimen of this plant, handed me some years since, while yet fresh, by Prof. *Jas. Hyatt*, who gathered it, as I understood, at Hoboken. *W. H. L.*

SPERGULA, L.—**S. arvensis**, L.; rather common in cultivated grounds; rare in New Jersey, *Austin.*

ANYCHIA, Michx.—**A. dichotoma**, Michx.; common.

SCLERANTHUS, L.—**S. annuus**, L.; very common.

MOLLUGO, L.—**M. verticillata**, L.; very common.

PORTULACACEÆ.

PORTULACA, Tourn.—**P. oleracea**, L.; common.

CLAYTONIA, L.—**C. Virginica**, L.; common.

MALVACEÆ.

ALTHÆA, L.—**A. officinalis**; not infrequent along the north shore of Long Island; Newtown, *T. F. A.;* Flushing, *State Flora;* Glen Cove, *Coles;* etc.

MALVA, L.—**M. rotundifolia**, L.; common.—**M. sylvestris**, L.; Westchester Co., Dr. *Mead*, in *State Flora.*—**M. moschata**, L.; a frequent escape.

SIDA, L.—**S. spinosa**, L.; "Sandy hills, N. J." *Eddy in Torr. Cat.; Le Roy.*

ABUTILON, Tourn.—**A. Avicennæ**, Gærtn.; not uncommon.

KOSTELETZKYA, Presl.—**K. Virginica**, Presl.; "Salt marshes near Oyster Bay." *Mitchill in Torr. Cat.* Hackensack meadows, near "Pen Horn City" on Erie R. R., *T. F. Allen.*

HIBISCUS, L.—**H. Moscheutos**, L.; common.

TILIACEÆ.

TILIA, L.—T. Americana, L.; common; var. pubescens, Weehawken, high hills, *Torr. Cat.*—T. Europæa, common in cultivation.

LINACEÆ.

Linum, L.—L. Virginianum, L.;—common.—L. striatum, Walt.; New Jersey, *Austin;* Staten Island, *W. H. L.*, probably common, but usually confounded with the preceding.—L. sulcatum, Riddell; New Jersey, *Austin.*—L. usitatissimum, L.; is found along the railroads &c., but hardly established.

GERANIACEÆ.

GERANIUM, L.—G. maculatum, L.; very common.—G. Carolinianum, L.; along the aqueduct at High Bridge; New Jersey, *Austin, W. H. L.*, not in *Torr. Cat.*—G. columbinum. L.; Chatham, N. J., a small patch *W. H. L.*; Long Island, *Torr. Cat.*, but not in *State Flora*,and as the next is found there,perhaps mistaken for—*G. pusillum*, L.; roadsides at Cooper's Glue Factory, Williamsburgh, and also at Lawrenceville, Newtown, *M. Ruger;* vid. § 20. Sandy soils a few miles from Brooklyn, *State Flora*; Glen Cove, *Coles.*—G. Robertianum, L., common on shaded and rocky hill sides, not reported from Long Island.

ERODIUM, L'Her.—E. cicutarium, L'Her.; Tottenville, Staten Island, *Le Roy.*

FLŒRKEA, Willd.—F. proserpinacoides, Willd.; Pascack, N. J., *Austin.*

IMPATIENS, L.—I. pallida, Nutt.; Snake Hill, N. J., *T. F. Allen*; Weehawken, *W. H. L.;* New Jersey, *Austin.*—I. fulva, Nutt.; very common.

OXALIS, L.—O. Acetosella, L.; on New York Island, *Le Conte,* in *Torr. Cat.*, but *State Flora,* makes no mention of it south of the Catskills.—O. violacea, L.; common.—O. stricta, L.; very common.

RUTACEÆ.

XANTHOXYLUM, Colden ?—X. Americanum, Mill, New Jersey, *Austin;* Glen Cove, *I. Coles.*

RUTA, L.—R. graveolens, L; Glen Cove, *I. Coles*; but whether fully naturalized, is not stated.

SIMARUBACEÆ.

AILANTHUS, Desf.—A. glandulosus, Desf.; springs up wherever there are trees, from both seed and suckers.

ANACARDIACEÆ.

RHUS, L.—R. typhina, L.; not common.—R. glabra, L.; very common.—R. venenata, DC.; swamps, common.—R. Toxicodendron, L.; too common. There is an upright form found in swamps, which, if I mistake not, shows no tendency to climb. *W. H. L.*

VITIS, Tourn.—V. Labrusca, L.; common.—V. æstivalis, Michx.—VITACEÆ, common.—V. cordifolia, Michx.; not uncommon, but we have no

report whether this is the true *cordifolia*, according to Engelman, or *riparia*, or both. *Torr. Cat.* has both, and this is probably correct. So far as the leaves and panicle afford a criterion, I have a specimen of *V. riparia*, Michx.; Summit, N. J., *W. H. L.*

AMPELOPSIS, Michx.—**A. quinquefolia**, Michx.; common.

RHAMNACEÆ.

RHAMNUS, Tourn.—**R. catharticus**, L.; old hedges, N. Y. Island, *W. H. L.*—**R. alnifolius**, L'Her.; Woody hills, N. J., *Torr. Cat.*; Ditches by side of rail road, New Durham swamp. *W. H. L.; T. F. A.*

FRANGULA, Tourn.—**F. Caroliniana**, *Gray;* Secaucus swamp; between Astoria and Flushing, vid. § 25.

CEANOTHUS, L.—**C. Americanus**, L.; common.

CELASTRACEÆ.

CELASTRUS, L.; **C. scandens**, L.; common.

EUONYMUS, Tourn.—**E. atropurpureus**, Jacq.; near Paterson, N. J., on road to Hamburg. *Fischer.*—**E. Americanus**, L.; Hill side on N. Y. Island, above High Bridge, *T. F. A.*—Var. **obovatus**, Torr. and Gray; rather common, but the leaves hardly obovate.

SAPINDACEÆ.

STAPHYLEA, L.—**S. trifolia**, L.; Palisades.

ÆSCULUS, L.—**Æ. Hippocastanum**, L.; common in cultivation.

ACER, Tourn.—**A. Pennsylvanicum**, L.; on the sides of high hills, N. J., *Torr. Cat.*; [Haverstraw, *Austin.*]—**A. saccharinum**, Wang.; rather common.—**A. dasycarpum**, Ehrart.; New Jersey, *Austin;* common in cultivation.—**A. rubrum**, L.; very common in wet grounds.—**A. platanoides**, and **A. Pseudo-Platanus** are common in cultivation, and spring up from seed in our parks, but have no chance to grow.

NEGUNDO, Mœnch.—**N. aceroides**, Mœnch; near Paterson, and Red Bank, N. J. *W. H. L.*

POLYGALACEÆ.

POLYGALA, Tourn.—**P. lutea**, L.; Raynor, Queens Co., L. I., *State Flora;* New Jersey, *Torr. Cat.*—**P. incarnata**, L.; *Torr. Cat.*, and others, but it is not in *State Flora*, and in the absence of a named locality, we suspect some mistake.—**P. sanguinea**, L.; common.—**P. Nuttallii**, Torr. and Gray; Staten Island, *T. F. A.* and others; Long Branch, *T. F. A.*—**P. cruciata**, L.; swamps, South Amboy, &c., *T. F. A.*—**P. brevifolia**, Nutt.; Secaucus swamp, *T. F. A.*—**P. verticillata**, L.; very common.—**P. ambigua**, Nutt.; New Jersey, *Austin.*—**P. Senega**, L.; in open woods, and on hills, N. J., *Torr. Cat.;* Orange Co., *Austin.*—**P. polygama**, Walt.; abundant on Long Island.—**P. paucifolia**, Willd.; New Durham swamp, *Torr. Cat.*, but not seen of late. Orange Co., and Morris Co., N. J., *Austin;* Long Island, *Le Roy.*

41. **SYNCHRONISM.**—The relative time of flowering of different species is a subject that naturally suggests itself to every collector, and, by a careful collation of observations, is capable of being well systematized. Every botanical excursion ought to furnish some materials for this purpose, and we call for contributions. Mr. Bower, informs us that of two species of native *Dentaria* cultivated in his garden, *D. laciniata*, was two weeks in advance of *D. maxima*, showing in this a marked distinction between the two species.

On the 14th of May, when every apple tree was in bloom, we made a short trip to Bergen Neck, and noted two or three points in this connection. In a partially drained swamp we found *Azalea nudiflora* and *Viola primulæfolia* in perfection of blossom. Some of the heads of this Azalea resembled, in their crowded umbel, Rhododendron. The Azalea head has about fifteen long peduncled flowers, but in these cases, owing to the shortening of the internodes, several heads were brought near together, giving a close cluster, effective as a mass, but lacking the grace of the separate ones. *Vaccinium corymbosum* was in flower close by.

How long this violet had been flowering we cannot say, and saw no other white violets to compare with it. *V. cucullata* had begun to appear in this neighborhood more than a month before, but was now abundant and tall scaped. *V. pubescens* seemed to be past its prime, although it had not showed itself nearly so early. We believe that most of our violets have a season of some weeks at least before they cease to display their petals, after which, as is well known, the stemless ones, at least, produce apetalous flowers throughout the summer—Is this change owing to variation in temperature, moisture, or light, or is it connected with the departure of some insect visitors? Will some one who has the opportunity to watch violets report to us the insects they find attracted by them?

Of Ranunculaceæ, *Anemone nemorosa* had quite disappeared in woods which two weeks earlier abounded in them, and *Thalictrum anemonoides*, which was scarce at best, had but a few stragglers left. Columbine was swinging its red bells over the rocks, apparently good for a week more at least. *Actæa alba* was in fresh flower, but *Cimicifuga racemosa* only in bud. *Ranunculus abortivus* was matured, having been out several weeks, but *R. recurvatus* was either scarce or just beginning to show its blossoms.

Of other orders, *Barbarea vulgaris* had newly minted its gold. Claytonia had been in bloom for more than a month, and was full of pods, with a few deep colored blossoms at the top—the sepals of these partaking of the deep color and pink veins with the petals. *Geranium maculatum* was not yet in its prime, and *Pyrus arbutifolia* hardly. The buds of *Viburnum acerifolium* were yet very immature, but the Dog-wood silvered the fresh green of the woods, while the male catkins of the Beech were withered.

Of Endogens, *Arisæma triphyllum*, *Trillium cernuum*, and *Smilacina bifolia* were in good flower, but *S. racemosa* and *Medeola Virginica* had some time to wait, and *Polygonatum biflorum* was only partially expanded. *Uvularia perfoliata* hung out bright bells, and *Hypoxys* was sparsely showing its yellow stars.

Antennaria plantaginifolia had finely developed male flowers; we did not notice the pistillate, but have the impression that they were in condition some weeks earlier: we should like to be enlightened on this point. So early as April the 9th, we found the Aspen in this neighborhood with the pistillate catkins on several trees more advanced than the staminate on one close by.

42. **Viola pedata, L.; var alba.** A white flowered variety of the Bird-foot violet was found near Flushing L. I., by C. L. Allen, of Brooklyn. It is not mentioned in Gray's Manual; "Sometimes pale or even white," T. & G. Flora; "rarely almost white," State Flora. In the specimens referred to the petals are quite white. G. T.

43. **Senebiera didyma,** Pers.—Appeared spontaneously along with *Galinsoga parviflora*, Cav., in the yard at 96 4th Ave., three years ago. T. E. A.

44. **The American Journal of Science and Arts** for May, contains a generous notice of our Bulletin, and a number of Botanical items of unusual interest. Mr. Bower's name has been misspelled Brown.

45. **Notes and Queries.**—What is the explanation of the sudden discharge of pollen from Broussonelia? Do the Locust and Catalpa propagate themselves by seed in our region?

46. **Anemone fungus.**—Several weeks since, in a wood on Bergen Neck, we noticed that nearly all the sterile fronds of Anemone nemorosa had a peculiar fern like appearance, and, on investigation, found on the under side a series of angular black spots, which made the likeness still stronger. It was evidently a fungized growth, and was referred by the Lyceum of Natural History to Prof. A. M. Edwards, who reports.

I found it to be *Puccinia Anemones*, a parasite very common both here and in Europe. It is peculiar to this plant and position, so much so that with its black coloured spots upon the deeply cleft leaves, it is not to be wondered at that at one time this was taken for a feru; and even now it is sometimes known as the Conjuror or Chalgrave's fern, as Ray in his "Synopsis" (3rd edition, 1724) describes it, in company with the Maidenhair and Wallrun fern. This whole group of microscopie Fungi, infesting both plants and animals, is of extreme interest; the Brand of the Wheat, the Oidium of the Grape, as well as many diseases which "flesh is heir to," being at least, accompanied, if not caused, by these quick growing atomies. Those who desire to learn more concerning them will find profit and amusement in perusing Mr. M. C. Cooke's little "Rust, Smut Mildew, and Mould"—, Hardwicke. If Botanists will send me Fungus infested plants I shall feel obliged. A. M. E.

314 West 34th Street.

47. **Monstrosities of Trillium grandiflorum** — the prevailing Trillium here—are occasionally met with in this vicinity, and brief mention of the extent of the variation may not be uninteresting for comparison with similar accounts from other localities. The forms found here have petals more or less turned to green, with long petioled smaller leaves, borne lower down on the stem ; or with stem leaves *entirely wanting*, and a single radical leaf instead. The Calyx of the leafless stemed form appears larger and more leafy.

Hepatica triloba and *Solea concolor*, mentioned by Mr. Hall in Nos. 2 and 3 of the Bulletin, grow here.

E. L. Hankensen.
Newark, Wayne, Co., N. Y.

48. **Trillium erectum, L., Var. album, Pursh.**—From observations made in my pretty extensive tramps in the woods of Central and Western New York, where *T. erectum* and *T. grandiflorum*, Salisb. are exceedingly abundant, I am inclined to think that the Var. *album* is only an accidental thing. The parts of the Trillium plants that appear above ground so entirely disappear in summer, that we cannot keep a perfectly strict watch of the same root without digging it up; but I have watched individual plants of this variety as closely as possible, and seen the regular purple flower in their place the next year; and have also seen the Var. *album* flower in places where the year before a purple flower had appeared. I have noticed, too, that, as a *rule*, the Var. *album* is a starveling; rarely as large or as healthy as the purple plants in the midst of which it grows. Also, I have rarely found a Var. *album* away from the company of the normal plant, and never more than three or four plants together, though they are quite common. As to the color of the petals, I have seen them of all shades, from creamy yellow, or greenish white, to the normal purple; sometimes with a blush of purple in the central part of the petal; sometimes with faint streaky tinges of purple lengthwise of the petal, though not at all like *T. erythrocarpum*, Michx. It has also, less scent. My strong impression is that it is simply an unhealthy state of the *T. erectum*.

I do not know whether I have ever seen Gray's Var. *declinatum* but in the woods of Central New York one may often see myriads of the *T. erectum*, with the peduncles all bent down, so that the flower is under the leaves; as completely deflexed as that of *T. cernuum*, L., but not otherwise like it. I have sometimes walked for a whole day, and scarcely seen a plant whose flower was not thus deflexed; at other times, and in other places, I have noticed these in the company of, and mingled with, erect ones. The peduncle is deflexed, with a sharp angular bend, just above the leaves, and not by any curving or drooping. I have never met with the petals "white" or "pink," as in Gray's description, but have seen them of the Var. *album* sort, now and then. Gray's description of *T. erectum*, L., in Manual, p. 523, speaks of the peduncle as "usually rather inclined than erect"; but whether that phrase is intended to cover the entirely deflexed state, I do not know.

Trillium grandiflorum takes very well to cultivation, increases and thrives in gardens, and is worth introducing. *T. erectum*

thrives equally, but is hardly as desirable: *T. erythrocarpum* is very difficult to keep alive in a garden. I. H. HALL.

49. **Viola pedata**, L.; "var. **alba**."—I have in years past often found this variety in Connecticut, in several places in New Haven and Litchfield counties, and particularly along the line of the New Haven and Northampton R. R. My friend, Rev. Prof. J. A. Paine, Jr., informs me that he has repeatedly found it in Oneida County, north of Rome, also near Schenectady, and in Massachusetts, and elsewhere frequently. The Long Island locality is on the Coney Island (horse-car) railway, about three quarters of an hour from the Fulton Ferry, and was discovered by Miss Emma Beach of Brooklyn. In the same place grow several other varieties, viz. the "var. bicolor," others with petals streaked and spotted, and others with such pencilled markings as are frequent on the flowers of the common V. tricolor of the gardens.

As to the "var. tricolor," I have found it almost everywhere where the V. pedata grows at all, and by no means very "sparingly." I am inclined to think that neither this nor the other varieties have enough permanence to deserve a special name. I. H. H.

50. **New Immigrants.**—It is probable that many foreign weeds may yet secure a foothold on our soil; their arrival and fortune deserve to be watched. Last summer it was observed that *Crepis virens*, L. var. *diffusa*, had taken possession of the grassy banks in Greenwood Cemetery, though it had not apparently spread beyond. The summer before, I noticed a well grown plant of *Sisymbrium Alliaria*, Koch, in the main street of Flatbush village, so flourishing that there seemed no reason why it should not spread. This summer, Mr. Ruger finds quite a growth of them in the ditches near the rail-road station. W. H. L.

51. **Lepidium intermedium**, Gray.—This western species has not yet been detected here, but it so closely resembles *L. Virginicum* that it may be overlooked if it arrives. I have lately received a good specimen from Texas, and find the pods rather broader than long, with the ears at top not so strongly marked as in the latter. The embryo more resembles that of *L. ruderale*, but with a longer cleft in the lower half. *L. Virginicum* has pods rather longer that broad; *L. ruderale* likewise, but only about half the size of the other two. W. H. L.

52. **Valeriana officinalis**, L., has escaped from cultivation at Fresh Pond, L. I. About thirty plants were observed. M. RUGER.

53. **Seedling Locusts.**—There are several young locusts that have sprung from seed on our place, and I have noticed others in the neighborhood that must have originated in the same manner. I have to dig up many locust seedlings from my flower bed.

R. TOMPKINS, Somers, Westchester Co.

54. **Rhus copallina**, L.—Mr. Hall calls our attention to the omission in our last list of this plant, which is common enough on New York

Island and in all other parts of our district. Mr. Hall correctly observes that it is by no means confined to "rocky hills" as Gray's Manual seems to imply; it flourishes, for example, on the sandy plains of Long Island. Difficulties in the way of proof-reading may account for this omission, and other blemishes in our last number.

55. **Synchronism.**—If several species are found growing in the same situation, near each other, and under the same conditions, the probability is great that their respective stages of forwardness will indicate the true periodical relations of these plants to each other, better than the dates of specimens gathered in different situations and at different times. If we had a sufficiency of such data, we could correlate the periods in the life of all our plants. We are desirous of attempting something of this sort; and request those interested to send us from time to time, during the season, specimens of at least three or four species gathered at the same time and in the same spot, with the date, and situation; or, if it is inconvenient to send specimens, to send a statement. It is evident that we should have here material valuable for the catalogue in other ways. It is desirable but not necessary for the specimens to be named, and no native plant, with trace of flower or fruit, would be inappropriate.

56. **Materials for the Catalogue.**—We have received an interesting communication from Dr. O. W. Morris, respecting the Flora of the island of New York. We had thought to publish in a separate article, but for economy of space conclude that it is better to indicate for the future by the letters N. Y. the plants that are or have been found on the Island, and take some opportunity, hereafter, to name those already on our list and not thus specified.

We wish much that our friends would bestir themselves, both to get for us local lists, and to supply the Herbarium with specimens. At present, the only district tolerably well known to us, is our island, and that, only for the orders included in Gray's Manual. As an illustration of the interest of local lists, we may mention that we have lately discovered that there is a region north of us, including parts of Westchester, Dutchess, and Ulster Counties, where *Claytonia* is rare or altogether absent. In a trip to Ulster County this spring, we did not see *Anemone nemorosa;* and we learn from Lake Mohegan, Westchester Co., that *Houstonia cærulea* is not found there.

LEGUMINOSÆ.

LUPINUS, Tourn.—**L. perennis**, L.; not uncommon in sandy soils, in New Jersey, and on Long Island; Orange Co., *Austin*

CROTALARIA, L.—**C. sagittalis**, L.; common in sandy soil; N. Y.

TRIFOLIUM, L.—**T. arvense**, L.; common.—**T. pratense**, L.; common.—**T. repens**, L.; common.—**T. agrarium**, L.; common.—**T. procumbens**, L.; not uncommon; var. **minus**, not so common; New York Island, *O. W. Morris:* all N. Y.

MELILOTUS, Tourn.—**M. officinalis**, Willd.; Hudson River, R. R. below Hastings, *W. H. L;* Brooklyn, *T. F. A.*—**M. alba**, Lam.; very common now, though not in *Torr. Cat.;* N. Y.

MEDICAGO, L.—**M. sativa**, L.; not rare in or near cultivated grounds. N. Y.—**M. lupulina**, L.; every where. N. Y.

ROBINIA, L.—**R. Pseudacacia**, L.; common. N. Y.

TEPHROSIA, Pers.—**T. Virginiana**, Pers.; not uncommon in the sandy soils of L. I. and New Jersey; probably also on dry hills within our limits in Westchester Co.

ASTRAGALUS, L.—**A. Canadensis**, L.; Westchester Co.? *Le Roy.*

DESMODIUM, DC.—**D. nudiflorum**, DC.; common. N. Y.—**D. acuminatum**, DC.; Palisades; Croton River, *T. F. A.*; New Jersey, *Austin;* Westchester Co., *Le Roy;* N. Y., *O. W. M.*—**D. pauciflorum**, DC.; Westchester Co.? *Le Roy.*—**D. rotundifolium**, DC.; rather common, N.Y.—**D. canescens**, DC.; Bloomingdale, *Torr. Cat.*, but not assigned to this part of the State in *State Flora;* Inwood, *W. W. Denslow;* New Jersey, *Austin.*—**D. cuspidatum**, Torr. & Gray; *Torr. Cat.; T. F. Allen;* Chatham, N. J., Flatbush, L. I., *W. H. L.*—**D. lævigatum**, DC.; Kingsbridge, *State Flora;* Bergen Point and Chatham, N.J., *W. H. L;* Suffolk Co., L. I., *T. F. A.*—**D. viridiflorum**, Beck; *Torr. Cat.*, Brooklyn, and New York Island, *State Flora;* Croton River, *T. F. A.;* New Jersey, *Austin; W. H. L.*—**D. Dillenii**, Darlingt.; common; N. Y.—**D. paniculatum**, DC.; common; N. Y.—**D. Canadense**, DC.; very common; N. Y.—**D. rigidum**, DC.; common; N. Y.—**D. ciliare**, DC.; common; N. Y.—**D. Marylandicum**, Boot.; common; N. Y.

LESPEDEZA, Michx.—**L. procumbens**, Michx.; Northern part of New York Island; Long Island, *State Flora;* New Jersey; not uncommon.—**L. repens**, Torr. & Gray; Glen Cove, *Coles;* Long Island, *State Flora & T. F. A.;* New Jersey, *Austin;* Croton River, *T. F. A.*—**L. violacea**, Pers.; common, with the varieties **divergens**, **sessiliflora**, **angustifolia**; N.Y.—**L. hirta**, Ell.; New York; common.—**L. capitata**, Michx.; N. Y.; very common; var. **angustifolia**. *State Flora.*

STYLOSANTHES, Swartz.—**S. elatior**, Swartz; New York Island; Elizabethtown, *Torr. Cat.;* Glen Cove, *Coles;* South Amboy & Red Bank, N. J.

VICIA, Tourn.—**V. sativa**, L.; Hoboken, *Torr. Cat.;* Long Island; New York Island, *O. W. M.*—**V. tetrasperma**, L.; Hoboken, *Torr. Cat.;* New Jersey, pod dries yellow, *T. F. A.;* New York Island; *O. W. M.*—**V. hirsuta**, Koch; *Torr. Cat.*; New York Island, *O. W. M. & others;* common in the neighborhood of N. Y., *State Flora;* Newtown, L. I., *Ruger;* pod dries black, *T. F. A.*—**V. Caroliniana**, Walt.; High hills, *Torr. Cat.; Le Roy.*—**V. Americana**, Muhl.; shady rocky situations, *Torr. Cat.;* N. Y. Island, *O. W. M.*

LATHYRUS, L.—L. maritimus, Bigelow; on the shores of Long Island, and the harbor of New York, *Torr. Cat.;* Glen Cove, *Coles;* St. Ronan's Well, Flushing, *T. F. A. & M. R.*—L. palustris, L.; Var. myrtifolius; New York Island, *Torr. Cat., W. W. Denslow;* abundant in Hackensack marshes.

APIOS, Boerhave.—A. tuberosa, Mœnch; N. Y. and common.

PHASEOLUS, L.—P. perennis, Walt.; Bloomingdale woods, *Torr. Cat.;* Island of New York, and Long Island, *State Flora; Le Roy;* Little Snake Hill, *T. F. A.;* a little above Pocantico Bridge on Hudson River R. R., *I. H. H.*—P. diversifolius, Pers.; Island of New York, and common.—P. helvolus, L.; Greenwich, *Torr. Cat.!* Only in sandy fields on Long Island, *State Flora.*

CLITORIA, L.—C. Mariana, L.; South Brooklyn station lost; no other known in this vicinity.

AMPHICARPÆA, Ell.—A. monoica, Nutt.; very common; N. Y.

GALACTIA, P. Browne.—G. glabella, Michx.; New Jersey, *Torrey.*—G. mollis, Michx.; Washington Heights, N. Y., *W. W. Denslow.*

BAPTISIA, Vent.—B. tinctoria, R. Br.; common.

CERCIS, L.—C. Canadensis, L.; woods, New Jersey, *Torr. Cat.*

CASSIA, L.—C. Marilandica, L.; not uncommon; particularly on Long Island; N. Y., *Le Roy.*—C. Chamæcrista, L.; rather common; N. Y.—C. nictitans, L.; common; N. Y.

GLEDITSCHIA, L.—G. triacanthos, L.; common in cultivation; and perhaps naturalized on Long Island, *Coles.*

CORONILLA.—C. varia, DC., growing in considerable patches by road sides in Westchester Co. and on Staten Island. *W. H. L.*

AMORPHA.—A. fruticosa, L.; Var. Lewisii, along the Hudson River R. R. at Tarrytown, *I. H. H.*

ROSACEÆ.

PRUNUS, Tourn.—P. Americana, Marshall; New Jersey, *Austin;* Tappan, *W. H. L.; Le Roy.*—P. maritima, Wang.; Shores of Long Island and Staten Island, abundant.—P. Pennsylvanica, L.; New Jersey, *Torr. Cat.;* Glen Cove, *Coles;* Westchester Co., *Le Roy;* not common near the city.—P. Virginiana, L.; N. Y., *O. W. M.;* not uncommon.—P. serotina, Ehrhart; common; N. Y.

SPIRÆA, L.—S. opulifolia, L.; rocky hills, N. S., *Torr. Cat.*—S. corymbosa, Raf.; Morris Co., N. J., *Austin.*—S. salicifolia, L.; common; N. Y.—S. tomentosa, L.; rather common.

GILLENIA, Mœnch.—G. trifoliata, Mœnch; hill sides, N. J., *Torr. Cat.*

POTERIUM, L.—P. Canadense; New Durham etc., N. J.; N. Y., *O. W. M.*

AGRIMONIA, Tourn.—A. Eupatoria, L.; common; N. Y.—A. parviflora, Ait.; rather common.

GEUM, L.—G. album, Gmelin; common; N. Y.—G. Virginianum, L.; Chatham, N. J., *W. H. L.; Torr. Cat.; Le Roy;* probably not uncommon.—G. strictum, Ait.; not found on Hudson far below Albany, *State Flora; T. F. Allen & Le Roy,* but no locality given.—G. rivale, L.; bog meadows, N. J., *Torr. Cat.*

POTENTILLA, L.—**P. Norvegica**, L.; common; N. Y.—**P. Canadensis**, L.; very common; N. Y.; Var. **simplex**, *Torr. & Gray;* common; N. Y.—**P. argentea**, L.; common; N. Y.—**P. recta**, Willd.; Glen Cove, *Coles;* Palisades, *Wilbur;* an escape.—**P. Anserina**, L.; Glen Cove, *Coles;* salt marshes of Long Island, *State Flora;* shores of Newark Bay, *W. H. L.*—**P. fruticosa**, L.; in meadows, Wehawken, *Torr. Cat.;* Morris Co , N. J., *Austin.*—**P. tridentata**, Ait.; northern New Jersey, *Austin.*—**P. palustris**, Scop.; New Jersey, *Torr. Cat.*

FRAGARIA, Tourn.—**F. Virginiana**, Ehrhart. *Austin, Le Roy, T. F. Allen;* Glen Cove, *Coles;* rare in the neighborhood of New York, and on Long Island, *State Flora.*—**F. vesca**, L.; very common; N. Y.

RUBUS, Tourn.—**R. odoratus**, L.; not uncommon; N. Y.—**R. triflorus**, Richardson; not uncommon; N. Y., *Torr. Cat.*—**R. strigosus**, Michx.; not uncommon.—**R. occidentalis**, Michx.; common; N. Y. **R. villosus**, Ait.; very common; N. Y.; Var. **humifusus**; common.—**R. Canadensis**, L.; common; N. Y.—**R. hispidus**, L.; common.—**R. cuneifolius**, Pursh; Long Island? *State Flora;* South Amboy; Tottenville, Staten Island, *W. H. L.;* East New York, *J. W. Congdon.*

ROSA, Tourn.—**R. Carolina**, L.; very common; N. Y.—**R. lucida**, Ehrhart; common.—**R. rubiginosa**, L.; not uncommon by road sides; N. Y., *O. W. M.*—**R. micrantha**, Smith; Hoboken: *Austin;* Sands Point, L. I., *W. H. L.*

CRATÆGUS, L.—**C. coccinea**, L.; not uncommon; N. Y.—**C. tomentosa**, L.; Harlem River, N. Y., *W. H. L.;* Var. **pyrifolia**, on rocks, in woods, *Torr. Cat.*—**C. Crus-galli**, L.; in woods, N. Y., *Torr. Cat.; O. W. M.;* and elsewhere not uncommon, *T. F. A., W. H. L.*, though perhaps from cultivation.—**C. parifolia**, Ait.; New Jersey; Tottenville, Staten Island, *W. H. L.*—**C. oxyacantha**, L.; is frequently spontaneous about old grounds, N. Y. and elsewhere.—**C. cordata**, Ait.; in *Torr. Cat.* is said to grow "in woods and on the banks of rivulets among rocks, New York and New Jersey," but it is not mentioned in the State Flora, and we only know of it in old hedges.

PYRUS, L.—**P. coronaria**, L.; in woods, New Jersey, *Torr. Cat.*, but probably an error.—**P. arbutifolia**, L.; Var. **erythrocarpa**; Var. **melanocarpa**; both common; N. Y.

AMELANCHIER, Medic.—**A. Canadensis**, Torr. & Gray; common.—Var. **Botryapium**; common; Var. **oblongifolia**; N. Y., *O. W. M.; Denslow; Allen.*

57. **Lysimachia Fraseri**, Duby; (*L. lanceolata*, Pursh, non Nutt.)—Among the interesting plants which I collected on Lookout Mt. (Tenn. & Geo., June 18—20, 1870,) was a showy Lysimachia, which both Dr. Torrey and Prof. Gray refer to the above species; but which differs so widely from the descriptions hitherto recorded, that I venture to offer the following. This showy plant grows abundantly, in company and flowering at the same time with *Œnothera glauca*, Mchx., on and around the point of the mountain; it is rank and stout, has a beautiful pyramid of flowers, reddish stem, and an exquisitely delicate red border to the leaves, bracts, and

sepals. The stem is erect, two to four feet high, smooth below, becoming glandular above. *Leaves*, 2 to 5 inches long; mostly 4 whorled, but often alternate, opposite, or 3 whorled; ovate lanceolate, sessile, tapering to the base, long acuminate, smooth, light green above, pale or glaucous beneath, irregularly dotted with minute elevated red spots; margin entire, delicately red lined, sparingly glandular under a lens; one ribbed, feather veined; midrib white, prominent beneath; lower and upper leaves becoming smaller. The upper whorl of leaves mostly bear the lowest whorl of the panicle in their axils. *Panicle* 3 to 8 inches long, terminal, pyramidal, compound. *Peduncles* mostly irregularly 4-whorled, glandular, bracted. *Pedicels*, often twice the length of the petals, either whorled at the extremity of the peduncle or scattered, bracted. *Bracts* persistent, red edged and tipped. *Sepals* narrowly lanceolate, sharp pointed, red margined, and glaudular, (not fringed,) $\frac{1}{2}$ to $\frac{3}{8}$ the length of the petals. *Corolla* $\frac{1}{2}$ to $\frac{3}{4}$ of an inch in diameter. *Petals* broadly ovate, *abruptly acute*, sparingly glandular under a lens, not red dotted nor margined. *Filaments* monadelphous, slightly unequal.

The plant deserved a name expressing the delicate red margin to the leaves, bracts, and sepals, which the sunlight renders quite effective in the living plant. I found no traces if it along the mountain farther south, nor at Stone Mt., Georgia. T. F. Allen.

58. **Migrations.**—Coming on the N. Y. Central R. R. a day or two since, I saw a number of plants of *Echinacea purpurea*, Mœnch, in full flower, at different places in the Mohawk valley east of St. Johnsville; perhaps thirty plants in all, scattered for perhaps four or five miles along. This is the first time I have seen the plant eastward. Its western companion, *Rudbeckia hirta*, L., I think first made its appearance in the eastern part of this state in 1860–1862. On the prairies they grow commonly every where.

Perhaps some western botanist can inform us how for west *Leucanthemum vulgare*, Lam., has travelled. In 1868, I had applications for specimens from Ann Arbor, Mich.; but in 1869, I saw it growing freely about the R. R. station at that place, though it seemed not yet to have crossed the state of Michigan. In Illinois and Iowa, I saw none; though *Maruta* and other wayside weeds were abundant.

Isaac H. Hall, 36 Pine St., N. Y.

59. **Lespedeza Stuvei**, Nutt.—Mr. Chas. H. Peck, of Albany, writes that he found this plant in 1868, between East New York and Canarsie, in the brush near the first crossing on the dummy road, some thirty to fifty rods from the track, on the east side. Mr. Hall calls our attention to his having found a specimen of this plant, in shady woods east of Tarrytown, as reported in Paine's Catalogue; which likewise contains the Amorpha elsewhere noticed.

62. **Material for the Catalogue.**—*Lupinus perennis*, L., is found at New Rochelle, and also between White Plains and Tarrytown. It grows abundantly in Western Connecticut.—*Melilotus officinalis*, Willd., is found with the above on sandy points, all the way from New Rochelle to New Haven. It is abundant on the Schenectady

and Troy R. R. *M. alba*, Lam., grows very densely on wharves all along the Hudson, and, on the railroads north and west of Albany, and in Western New York, is still the prevailing form, as it is with us.—*Tephrosia Virginiana*, Pers., I have seen at Throggs Neck, not quite down on the neck, and perhaps near White Plains.—*Lespedeza repens*, Torr. & Gray, on the land above a stone quarry, below Sing Sing.—*Desmodium viridiflorum*, Beck, at Sleepy Hollow Cemetry, above Tarrytown. (It is to be observed that the flowers of several Desmodiums turn green before withering, just as those of *Trillium grandiflorum* turn rose color.)—*Desmodium acuminatum*, DC., I have found nearly as common as *D. nudiflorum*, all about New York.—*Vicia tetrasperma*, L., repeatedly along the Hudson River, in Westchester Co. I H. H.

Our floral region may be roughly subdivided as follows: First District; the neck of land between the Hudson and Long Island Sound, extending to Croton Point on the former, and Greenwich Point in Connecticut on the latter, and separated by the Harlem River from the: Second District; New York Island, which is its geological continuation: Third District; the Valley of the Hackensack, including the Palisades, and stretching from Rockland Lake to Newark Bay: Fourth District; Staten Island, which may be considered the geological continuation of the Third: The Fifth District may be generally described as the Valley of the Passaic, being watered by streams most of which flow into that river, and having for its northern and western limits the townships of Ramapo, Pompton, West Milford, Rockaway, Randolph, Mendham, Bernard, and Bridge Water; being separted by the Raritan River on the south from the: Sixth District; which includes the country between the Raritan and the Ocean, having on its western and southern boundaries Milton, Spotswood, Freehold, and Deal: The Seventh District covers the western end of Long Island, embracing Kings and Queens Counties, and the western half of Huntington township in Suffolk Co. This distribution is doubtless imperfect, but this very imperfection will serve our present purpose, which is to call the attention of collectors to the point, that any rational catalogue of of our flora, should distinguish what plants are absent from, or peculiar to each natural region, and should contain such information in reference to soil, climate, etc., as may help to elucidate the distribution. It would seem that there must be persons residing in each of these seven districts, who would be ready to furnish a list of plants noticed in their several localities: but at present we have but one local list to refer to, (L. I.), and few localities given in the others. We hope in the next issue to bring the catalogue up to **Umbelliferæ**, and invite the members of the club and others interested to send us fresh lists of the localities known to them, as far as that Order, and in general to keep us supplied in advance. We are thankful for all subsequent corrections and additions but of course prefer to have our list as complete as possible when first published. A note-book carried on a walk, would be found very useful.

Local Herbarium, 3 E. 33d St.—Editor 224 E. 10th St.

63. **Lemna.**—Between Huguenot station and Annadale on the Staten Island R. R., branching from a road running nearly parallel with the rail road, is another road leading to the shore. A brook crosses this, and among the bushes on the left hand side *Epigæa* grows finely: crossing the fence, beyond the brook, and following a path obliquely towards the shore, rather more than a quarter of a mile into the woods, we find two little hollows filled with water. About the end of July, I found these covered with the Lemna mentioned in the following note from Dr. Torrey. Since receiving it, I have been able to see the palmate veins, very distinctly in the decayed leaves. The fronds vary much in size, those with mature fruit I have always found quite small, but have seen the stamens on some nearly or quite as large as the ordinary *S. polyrrhiza*. Even in July, the plants were producing what Hegelmaier calls the winter fronds together with the usual kind. I have sent good specimens to him. Excursions made to procure more specimens were successively less productive; I presume, therefore, that the flowers were most abundant early in July: *L. perpusilla*, Torr., which is intermingled with it, is beginning to blossom at the end of August. The *L. umbonata, A. Braun*, is referred by Hegelmaier to *S. polyrrhiza*. W. H. L.

I have made a careful study of the Lemna that you brought me from Staten Island. It is clearly a Spirodela, if that genus be adopted, but, whether a mere variety of *L. (Spirodela) polyrrhiza* or a distinct species, I am in doubt. In all the fertile flowers that I examined, there was but a single ovule in each ovary. Two of the fronds bore ripe fruit, each with a single seed. The fronds are smaller than in the ordinary state of *L. polyrrhiza*, seldom more than 2½ lines long, and I found no traces of palmate nerves.

Five or six years ago I received living specimens of a Lemna, in flower and fruit, collected by Mrs. Brown, of Brattleboro, Vermont, and named, *L. polyrrhiza*. I have preserved no notes respecting the ovary, and the specimens reserved for my herbarium have been too much injured to permit a reexamination of them. It is doubtful, therefore, whether the plant is similar to yours, or a genuine *L. polyrrhiza*, with binovulate ovaria.

Many years ago, (1845,) I received from Dr. Engelmann a Lemna found by him near St. Louis, and named "*L. umbonata, A. Braun in litt.*" It was without flowers or fruit. I can not find any character in which it differs from L. polyrrhiza; and Mr. C. F. Austin, who made a special study of North American Lemnaceæ, thinks it is not distinct from that species. You have been very fortunate in detecting the flowers and fruit of a plant that is so very rarely seen in such condition, notwithstanding it is abundant in almost every part of the world. J. T., Columbia College, Aug. 11th, 1870.

64. **Additional observations on the flora of Lookout Mt.**—Along the perpendicular cliffs are numerous shelves worn horizontally, (usually from veins of conglomerate,) often quite deep: in these recesses, seemingly beyond the reach of sunlight or rain, in the dry dust, we

find magnificent beds of *Silene rotundifolia*, Nutt., with stems very brittle at the nodes. I did not see it, (or, at least, very exceptionally,) in the open ground, where *S. Virginica*, L., seemed to take its place; *Azalea arborescens*, Pursh, was almost out of flower, though in cooler places I found good specimens. *Careopsis senifolia*, Michx., everywhere,—the smooth variety common, the soft hairy form, (in no other way different,) not common: this plant, and variety, I first found at the Mammoth Cave, thence going south, common every where. On the top of the mountain, on the rocks, *Talinum teretifolium*, Pursh; *Parthenium integrifolium*, L.; *Helianthus tomentosus*, Mchx.; *Schrankia uncinata*, Willd., (all through the South); *Phlox Walteri*, Chap.; *Rhus Toxicodendron*, L.; Var. *quercifolium*, Mchx, very queer; *Pentstemon Digitalis*, Nutt.; *Ligusticum actæifolium*, Mchx., (the natives call it Angelica root); *Rudbeckia fulgida*, Ait.; *Vaccinium arboreum*, Marshall, very common all over; *Calycanthus floridus*, L., along the streams; *Stenanthium angustifolium*, Gray, grows under the cliffs, at the Point. Along down the mountain sides, *Phlox maculata*, L., and *divaricata*, L., (fruit); *Oxydendrum arboreum*, DC.; *Polypodium incanum*, Swartz; and *Asplenium montanum*, Willd.; *Clitoria Mariana*, L.; *Salvia urticifolia*, L.; *Ipomea pandurata*, Meyer; *Robinia hispida*, L., quite common, but with no traces of flowers or fruits. In an old yard, I found *Heliophytum Indicum*, DC. Every where in fields and open woods is found *Ruellia strepens*, L., growing singly and strictly erect. At Chicago, Mr. Babcock showed me a locality of *Ruellia ciliosa*, Pursh, which grows in clumps and is prostrate. I found *R. strepens* always quite hairy. At Lula Lake and Falls on Lookout Mt., six miles from the Point grows abundantly *Rhododendron Catawbiense*, Mchx., (I only found it in fruit,) also *Diervilla sessilifolia*, Buckley, *Xanthorrhiza apiifolia*, Marshall, *Rhamnus lanceolatus*, Pursh; and magnificently wild, *Yucca filamentosa*, L. *Œnothera glauca*, Mchx., I found wherever I went on the Mountain.

T. F. Allen.

65. A few days since, at Saratoga Springs, in the woods near the Excelsior Spring, amongst a large number of plants of *Aspidum thelypteris*, Swartz, I found several with the stipe or rachis enameled, black and shiny, like that of *Adiantum pedatum*, L., or of *Asplenium ebeneum*, Ait. The blades of the fronds had a somewhat coppery tinge. Some were beginning to fruit, but most showed no signs of fructification. I gathered a dozen or so, but the extreme heat of the sun withered and spoiled them before I could get them in press. Near by were many Osmundas (either *O. cinnamomea* or *O. claytonia*—probably the latter,) with many fronds of that puzzling shape that so nearly resembles Onoclea—specimens of which I have now and then seen, and which I have never before been able to place. July, 28th.

I. H. H.

66. **Pyrus coronaria**, L., is said to occur at Old Tappan, N. J., on the farm of the late Thomas Waring; also at New Bridge. It is not rare in Morris Co. about Mendham! Succasunny! Chester! Peapack! etc. It also occurs throughout Western and Southern New Jersey, and about Port Jervis, N. J.!

Prunus Virginiana, L., is very rare near Closter, the only locality known to me is about three quarters of a mile N. W. of the station; **P. Americana**, Marshall, is found at Closter.

Gillenia trifoliata, Mœnch, I have never seen in N. J. this side of the Musconetcong Mts.

Geum Virginianum, L., is not rare in bogs near Closter; **G. strictum**, Ait., is quite common near Parcipany.

Spiræa opulifolia, L., and

Potentilla arguta, Pursh, Rocks, High Torre, Haverstraw; **P. palustris**, Scop.; Budd's Lake, Morris Co., N. J., [both extra limital, *Eds.*]

Fragaria Virginiana, Ehrhart, is common about Closter.

Rubus strigosus, Mchx., is common in Orange and Sussex Co's, but I never saw it this side of, nor even on, the Musconetcong Mts. I have searched for it about Sufferns, Haverstraw, Ramapo, Mendham, Boonton, Budd's Lake, Stanhope, Hacketstown, Chester, Morristown, Closter, etc., but never found it near these places.—**R. neglectus**, Peck, a hybrid, I have no doubt, between *R. Strigosus* and *R. occidentalis*, occurs in Orange Co., but seldom more than one bush in a place; it will hardly average a bush to a hundred acres of land. A *Var.?* of *R. occidentalis* with whitish or cream colored fruit appears to have escaped from cultivation at Franklin, Essex Co., N. J., (near Caldwell.) It is thoroughly established in pastures and thickets. I have heard from several persons that a white-berried Rubus grows near Sufferns, N. Y. C. F. Austin.

67. Mr. Congdon of Rhode Island used to find at East New York, **Ascyrum Crux Andræi**, L., and at Irvington **Polanisia graveolens**, Raf. **Scirpus Olneyi**, Gray, grows abundantly at junction of Erie & N. R. R. of New Jersey. There is a large clump of **Melilotus officinalis**, Willd., at Communipaw on the N. J. Central R. R., where also **Cannabis sativa**, L., is very abundant. T. F. A.

68. **Prunus Pennsylvanica**, L., grows on Weehawken heights. It is also in the Central Park, west side, not for from the 100th St. entrance. *Potentilla fruticosa*, L., also grows finely, and, I think, multiplies there; and *Hypericum Kalmianum*, L., near the Seventh Ave. entrance, and elsewhere, is from ten to twenty times as large as the wild plants about the Niagara River. I found **Potentilla arguta**, Pursh, high on the rocks, east of Tarrytown, (Paine's Cat. p. 25,) and, since then, near Wilton, Conn. [In the N. W. part of Connecticut, it is a pernicious weed, overrunning the fields, and is known as Hardhack. *Eds.*] I. H. H.

69. **Native Plants in Central Park.**—In 1857 Messrs. Rawolle and Pilat published a list of plants gathered in August and September in the Central Park. Most of these were native or naturalized, among them the following, which we have not heretofore credited to the Island. **Prunus maritima**, Wang., scarce; **Spiræa tomentosa**, L., very rare; **Agrimonia parviflora**, Ait., rather common; **Rubus hispidus**, L.; **Rubus cuneifolius**, Pursh; **Rosa lucida**, Ehrhart; **Cratægus tomentosa**, L., Var. pyrifolia.

70. **Geranium pusillum**, L.—Since my last report, I have found a patch of this plant in Love Lane, a few steps east of the Main street of Flatbush: I have also found **Cornus Canadensis**, L., on the western border of the pond between East New York and Canarsie.

M. Ruger.

SAXIFRAGACEÆ.

RIBES, L.—**R. Cynosbati**, L.; bogs, Closter, N. J., *Austin;* Preakness Mountains, N. J., *W. L. Fischer.*—**R. hirtellum**, Mchx.; bogs, Closter, N. J., *Austin;* High Bridge, N. Y., *W. H. L.*—**R. rotundifolium**, Mchx.; N. J., *Allen, Austin;* Fort Lee, *W. H. L.;* foot of 60th St. North River, *Le Roy.*—**R. prostratum**, L'Her.; bogs, Closter, N. J., *Austin.*—**R. floridum**, L.; Long Island, *Ruger, Allen;* N. Y., *Morris;* New Jersey, *Austin;* Westchester Co., *W. H. L.*—**R. rubrum**, L.; near Maspeth, etc., L. I., *Ruger;* New Durham Swamp, *Allen;* N. Y., *Morris;* but probably an escape.

ITEA, L.—**I. Virginica**, L.; probably grows within our limits in N. J., though not reported nearer than Manchester.

PARNASSIA, Tourn.—**P. Caroliniana**, Mchx.; not uncommon.

SAXIFRAGA, L.—**S. Virginiensis**, Mchx.; very common; N. Y.—**S. Pennsylvanica**, rather common; N. Y., *O. W. M.*

HEUCHERA, L.—**H. Americana**, L.; common.

MITELLA, Tourn.—**M. diphylla**, L.; common in Northern part of Bergen Co., etc., N. J.; but never saw it on Palisades, or south of Closter, *Austin;* Preakness, *Fischer;* Morristown, *W. H. L.;* banks of Bronx, W. Mt. Vernon, *Hall;* Greenburgh, Westchester Co., *W. H. L.;* N. Y., *O. W. M.*

TIARELLA, L.—**T. cordifolia**, L.; Passaic Falls, *Torr. Cat.;* on the banks of the Bronx, with *Mitella, Hall.*

CHRYSOSPLENIUM, Tourn.—**C. Americanum**, Schwein.; common; N. Y.

CRASSULACEÆ.

PENTHORUM, Gronov.—**P. sedoides**, L.; very common; but not so, near Closter, *Austin;* N. Y.

SEDUM, Tourn.—**S. acre**, L.; on rocks, Yorkville and Morrisania, *W. H. L.;* not in *Torr. Cat.*—**S. ternatum**, Mchx.; along the road which bounds Mr. Herbert Torrey's place, Rockland, N. J., opposite his grounds, 1868, *Austin;* Trains Meadow Road, near Jackson Av., L. I., *Ruger.*—**S. Telephium**, L.; roadsides, common; not in *Torr. Cat.*

HAMAMELACEÆ.

HAMAMELIS, L.—**H. Virginica**, L.; common; N. Y.

LIQUIDAMBAR, L.—**L. Styraciflua**, L.; very common; N. Y.; common on the Palisades, but does not occur west of the Hackensack River, *Austin;* near Bloomfield, N. J.; *Austin.*

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HALORAGEÆ.

MYRIOPHYLLUM, Vaill.—M. ambiguum, Nutt.; ponds, Staten Island, New Dorp, *Allen;* Long Island and South Jersey, only in very sandy localities, *Austin;* with its varieties, natans, capillaceum, limosum, ponds and miry places, L. I., *State Flora.*

PROSERPINACA, L.—P. palustris, L.; common.—P. pectinacea, Lam.; is not reported distinctly as within our limits, but, no doubt, will be found in New Jersey.

ONAGRACEÆ.

CIRCÆA, Tourn.—C. Lutetiana, L.; common.

EPILOBIUM, L.—E. angustifolium, L.; not uncommon; N. Y.; common about Closter, *Austin.*—E. palustre, L., Var. lineare; *Torr. Cat.;* not uncommon about Closter, *Austin.*—E. molle, Torr.; Morristown and Chatham, N. J., *W. H. L.*—E. coloratum, Muhl.; very common; N. Y.

ŒNOTHERA, L.—Œ. biennis, L.; very common; N. Y.; Var. muricata, quite common; Var. grandiflora, *Allen;* Var. parviflora, *Torr. Cat.* —Œ. sinuata; *Le Roy;* South Jersey, *Austin.*—Œ. fruticosa, L.; common; N. Y.—Œ. linearis, Mchx.; Glen Cove, *Coles,* [perhaps the var. of *Œ. fruticosa,* § 3, page 12, *Eds.*]—Œ. pumila, L.; Long Island, *Dr. Knieskern, State Flora;* Mountain north of Closter, rare south of this place, *Austin;* Long Hill, N. J., *W. H. L.; L. R.*

LUDWIGIA, L.—L. alternifolia, L.; common; N. Y.; with purple petals, Glen Cove, *Coles.*—L. sphærocarpa, Ell.; common about Closter, in low grounds, *Austin;* Fresh Pond, Staten Island, *W. H. L.;* abundant along the shores of Mohegan Lake, near Peekskill, *W. H. L.*—L. palustris, Ell.; very common; N. Y.

MELASTOMACEÆ.

RHEXIA, L.—R. Virginica, L.; rather common.

LYTHRACEÆ.

AMMANIA, Houston.—A. humilis, Mchx.; on the muddy banks of creeks in Hackensack meadows, *Torr. Cat.* This is a variety with broad leaves; the narrow leaved variety is found on Staten Island, *Allen;* Long Island, near Brooklyn, *State Flora;* near Ridgewood, on Myrtle Avenue, *Ruger;* Closter, rare, *Austin.*

LYTHRUM, L.—L. Hyssopifolia, L.; Staten Island, along road leading towards shore, near New Dorp, *W. H. L.*—L. lineare, L.; Hackensack meadows, *Allen, Leggett.*—L. Salicaria, L.; old grounds near R. R. station at Flushing. It is found in Orange Co., *State Flora,* and along the Hudson, *Torrey, Hall,* perhaps within our limits.

NESÆA, Commerson, Juss.—N. verticillata, H. B. K.; bogs, common; rare about Closter, *Austin.*

CUPHEA, Jacq.—C. viscosissima, Jacq.; Washington Heights, N. Y., *W. H. L.;* abundant near Harlem R. R. above White Plains, *Hall;*

in fields back of Greenwood Cemetry, many of the plants bearing pale purple flowers, *W. H. L.*, 1869.

CACTACEÆ.

OPUNTIA, Tourn.—**O. vulgaris**, Mill.; common on exposed rocks and in sand, Westchester Co. and on New York Island, and Long Island; and in white sand in South Jersey, *Austin;* Preakness Mountain, *Austin;* South Amboy; at Manhattanville with the strong yellow spines of the southern form, *State Flora.*

CUCURBITACEÆ.

SICYOS, L.—**S. angulatus**, L.; not uncommon; N. Y.

UMBELLIFERÆ.

HYDROCOTYLE, Tourn.—**H. Americana**, L.; common; N. Y.—**H. umbellata**, L.; Suffolk and Westchester Co's, *State Flora;* Suffolk Co., *T. F. A.;* Mohegan Lake, Waccabuc Lake, Westchester Co., *W. H. L.;* Red Bank, N. J., along the muddy shore of the Navesink river, opposite the village, and just above the first wagon bridge, along with the rarer—**H. interrupta**, Muhl.; which grows farther back on the springy bank.—A peltate leaved form, which I have not seen in bearing, but which is probably *H. umbellata*, grows abundantly along the Passaic, at Woodside; *W. H. L.*

CRANTZIA, Nutt.—**C. lineata**, Nutt.; reported at Westpoint and Peekskill, in *State Flora.* should be looked for, in brackish mud, within our limits.

SANICULA, Tourn.—**S. Canadensis**, L.; common; N. Y.—**S. Marilandica**, L.; common; N. Y., *O. W. M.*

ERYNGIUM, Tourn.—**E. yuccæfolium**, Mch.; Pine Barrens, N. J., *Gray, Austin;* perhaps extra limital.—**E. Virginianum**, Lam.; borders of salt meadows, Hoboken, *Torr. Cat.*

DAUCUS, Tourn.—**D. Carota**, L.; too common; N. Y.

HERACLEUM, L.—**A. lanatum**, Mchx.; borders of salt marshes, Hoboken, *Torr. Cat.;* Glen Cove, *Coles.*

PASTINACA, Tourn.—**P. sativa**, L.; very common; N. Y.

ARCHEMORA, DC.—**A. rigida**, DC.; Northern R. R. of N. J., *Allen, Austin;* swamps, Fairfield, N. J., *Torr. Cat.*

ARCHANGELICA, Hoffm.—**A. hirsuta**, *Torr. & Gray;* common; N. Y.—**A. atropurpurea**, Hoffm.; *Torr. Cat.; L. R.;* common at Closter *Austin;* N. R. R. of N. J., *W. H. L.;* between East New York, and Canarsie, *Ruger.*

CONIOSELINUM, Fischer.—**C. Canadense**, Torr. & Gray; common at Closter, *Austin; L. R.*

ÆTHUSA, L.—**Æ. Cynapium**, L.; N. Y., *Ruger*, vid. § 32; near Pleasant Valley on road to Fort Lee, *W. H. L.*

THASPIUM, Nutt.—**T. aureum**, Nutt.; common; Pascack and Weehawken, but not about Closter, *Austin.*—**T. trifoliatum**, Gray; Long Hill, N. J., *W. H. L.*

71. **Lemna Valdiviana**, Phillippi.—Several years since I found a Lemna in Patchouge pond, L. I., which seemed new and strange to me, not only from its habit,—peculiar in that it grows in tangled *submerged* masses, exactly like *L. trisulca*, L.—but also from the size shape, and grouping of the fronds.

I secured it again this year in the same locality, and, as it does not well correspond in habit with any described form, I give herewith a wood cut of it. The fronds occur mostly in groups of 2, 4 or 6, and are very small, not averaging over two millimetres in length, the groups of four usually measuring four m. m. in diameter. Figure 1 gives a representation of a group magnified four diameters.

The roots are very long—reaching over 25 times the length of the frond—and become curled, and recurved at the extremity besides, intertangling in great confusion. The extremity is provided with a sheath, as shown in Fig. 5. The roots are nerved. The origin of the root from the under surface of the frond is shown in Fig. 2, (enlarged 16 diameters.) Fig. 3 gives a longitudinal section through the root in the direction of *A. B.* in Fig. 2, it shows the oblique origin of the root; the sheath, which extend a very short distance; and the peculiar shape of the surfaces of the frond. Fig. 4 represents a transverse section of the frond in the direction of *C. D.* in Fig. 2. These drawings are made acurately from the microscope.—I have some plants growing in my aquarium, which I can supply to any one wishing them.

The plant corresponds exactly in size and shape to *L. Valdiviana*, (Phillippi), as figured in Hegelmaier, and is doubtless that species, though no mention is made either by him or by Austin, *(L. Torreyi, Austin, Gray's Manual)*, of the submerged habit. I trust the figures will enable other observers te detect the plant. The fronds are very asymetrical. T. F. A.

We sent some of these Lemnas to Mr. Austin, who writes: "The *L. Torreyi* you send has the fronds subovate and shorter than usual. In two groups of the fronds I found no trace of air cavities." *Eds.*

72. **Wolffia Columbiana**, Karsten.—I have received sterile specimens of a Wolffia, probably *Columbiana*, from Antrim, Michigan, col-

lected by the Rev. D. R. Shoop of Bellevue in that State, in June or July. The waters of a mill-pond were covered with it. I. H. H.

I have just received *Wolffia Columbiana* in flowers from Detroit, M. C. F. A., Sept. 9th.

73. **Trillium erectum**, L.—Mr. Bower tells me that a plant of *T. erectum*, L., Var. *album*, Pursh, which I sent him some five or six years since, keeps its "creamy green" color every year. I may also add that I have received a specimen of the Var. declinatum, Gray, from Michigan, and I can now say, that I never saw it growing in New York State. I. H. H.

74. **Rubus neglectus**, Peck.—I am sure that Mr. Austin is wrong in his suggestion about this being a hybrid. I have had this subject before me ever since a boy, when I helped to collect the forms on which Babington, T. Bell Salter, and others, made so many species. I am satisfied that there is no such thing as hybridization among any of our Rubi, but that all our forms result from a *natural law of evolution*. Rubus would make the very best study for a vegetable biologist. THOMAS MEEHAN.

75. **Obituary.**—Mr. Ignatz A. Pilat, the Chief Gardener of Central Park, died at his residence in this city on September 17th. Mr. Pilat was a native of Austria, and had important positions before political troubles induced him to come to this country. He was connected with the Park from its inception, and held charge of carrying out the details of the plan. How well he performed his part, that noble work bears ample witness. Mr. Pilat published in Austria, a work on Elementary Botany but, though an ardent lover of the science, his occupations allowed him but little time to devote to it in this country. Still he was familiar with our native plants, and when the ground, now occupied by the Park, was taken possession of, he prepared a full catalogue of the wild plants found there. In Mr. Pilat, botanists loose a warm sympathizer with their pursuits, and the community a most estimable public officer. G. T.

76. **Corrigenda.**—One or two material errors occuring in the last number, we take the occasion to correct not only them, but the more important earlier slips.—p. 14, line 7th, for "syllable" read "prefix"; p. 17, last line but one, VITACEÆ, should be the heading over the article Vitis: p. 19, l. 23; for "showed" read "shown"; § 45 read "Broussonetia"; § 46 read "Wallrue"; § 49, l. 14, for "tricolor" read "bicolor"; § 50, last line but one, for "them" read "it"; § 56, l. 3, after publish insert "it"; p. 24, § Medicago lupulina, L., insert semicolon before N. Y.; p. 25 put "L." after Coronilla, and Amorpha; § Spiræa opulifolia, for "N. S." read "N. J."; p. 26 read "Cratægus parvifolia"; § 63, l. 4, for "left" read "right"; § 65, for "slimy" read "shiny"; § 66, for "Waring" read "Haring", read also "Port Jervis, N. Y."; p. 31, § Potentilla arguta, read "High Torne"; § 68, last line but two for "it is &c." read "*P. fruticosa* is &c."

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77. Spirodela, Schleiden, *illustrated.*—We have received communications from Prof. Hegelmaier and Mr. Austin respecting the flowers and fruit of this plant, found last summer on Staten Island. It will be seen that it still remains a question whether this be the true *Lemna polyrrhiza* of Linnæus. We are expecting soon to hear again from Prof. H., as in the first supply we sent him there was a deficiency of fruit. Mr. Austin illustrates his observations with a drawing.

Tübingen, Aug. 30th, 1870.

Your discovery is of the highest interest for the knowledge of the *Lemnaceæ*, as the flowers and fruit of *Spirodela* rank among the greatest botanical rarities. I myself though working some years on these plants, and examining rich materials of them both living and dried, have never before seen the flowers and fruit; and, in fact, they have been seen and described only by a few authors.

I immediately examined your plants as accurately as it was possible. In the vegetative parts there is no difference to be found from our *Spirodela (Lemna) polyrrhiza*, for the smallness of the fronds is certainly accidental, or rather is connected with the fertility of the plant. But the ovary, as I have found, is always one-ovuled in the stage of flower, and the fruit, as you state, one-seeded; while the ovary of *L. polyrrhiza* is described decidedly, as being two-ovuled, by the authors who have seen it. I am, therefore, inclined to judge that your plant must be considered as a different species or subspecies of *Spirodela*.....The name of *S. monosperma*, I think would perhaps not be quite convenient, because it is very possible that in *S. polyrrhiza*, in the rare cases in which it may be fertile, only one of the two ovules is developed to a seed.....

F. Hegelmaier.

Closter, N. J., Oct. 10th, 1870.

.....Dr. Engelmann writes, that both Griffith in India and Schleiden in Germany found this *Lemna (polyrrhiza)* binovulate, but that it matures but one seed; also that he found two ovules in one of our plants. I also have found two ovules in one example.

The *utricle* is nearly round, biconvex, somewhat winged on the margins, abruptly beaked with a short, conic, truncate mouth, which is slightly oblique (recurved), rather small for the size of the frond :—*seed* not quite filling the utricle, broadly oval, horizontal, with a black protruding hilum at the base—I saw no operculum at the apex, but did not look for it; *half anatropous*, composed of three distinct parts, of which only *the central or albuminous portion* is easily separable; this contains the germ protruding from its apex, where it appears to be irregularly about four lobed ; under pressure the germ appears to be slightly curved ;—*the outer coat* is very thick, homogeneous, somewhat spongy;—*the inner coat* is about as thick as the outer one, and appears to be composed of starch ;—the seed is somewhat flattened.—The frond is about 7 (-9) nerved. The young frond issues from the same cleft as the fruit, and both above and over it. C. F. Austin.

Since the above was in press we have received a note from Dr. Engelmann in which he says : "I was delighted to find in one of

my specimens a two-ovuled ovary; no doubt about it. So Hegelmaier's objection to its identity with *S. polyrrhiza* falls to the ground. I had the other day a long letter from him, written before he had received your second envoy. He was then then busy as military surgeon, (He was a medical man before devoting himself to botany.)" Mr. Austin, in a note dated Sept. 9th, writes: "The utricle contains but one ovule in all the fronds I have examined, but I think there is evidently an empty space on the other side of the utricle, fully as large as the space occupied by the single ovule." This is a good example of botanical sagacity. We still think, however, that there is some peculiarity about the plant. The tenuity of the nerves has been referred to. In the full grown plant, now floating before us, there is a strong ridge down the middle of the frond, giving it a different appearance from the common form. However this may be, we believe the engraving from Mr. Austin's drawing, which, through the kindness of a friend, we are enabled to present, is the first accurate delineation of the parts of fructification of this plant which has yet been made.

Explanation of the Plate.—Fig. 1. Frond, showing the nerves at *a a a a a a a;* young frond at *b;* fruit at *c;* with the seed *d;* rootlets at *e*.—Fig. 2. Cross-section of frond showing it to be biconvex, also showing the air-cavities.—Fig. 3. Fruit.—Fig. 4. Seed, showing the raphe at *r*, and the hilum at *h; x* is the apex of the seed, which opens under pressure, when also the albuminous portion issues out through this opening.—Fig. 5. Cross-section of seed, showing its three distinct parts, viz: *a*, album; *s*, starch; and *t*, testa, or outer coat.—Fig. 6. Shows the albumen which has been pressed out of the seed, and the germen, *g*, protruding from the apex.—Fig 7 is the same with the germen separated.

78. **Nuphar luteum**, Smith, Var. **pumilum**.—Common in the Hackensack River, etc., near Closter.

Arabis lævegata, DC.—Common on the Palisades.

Draba verna, L.—I have never seen about Closter, nor on the Palisades north of Guttenberg.

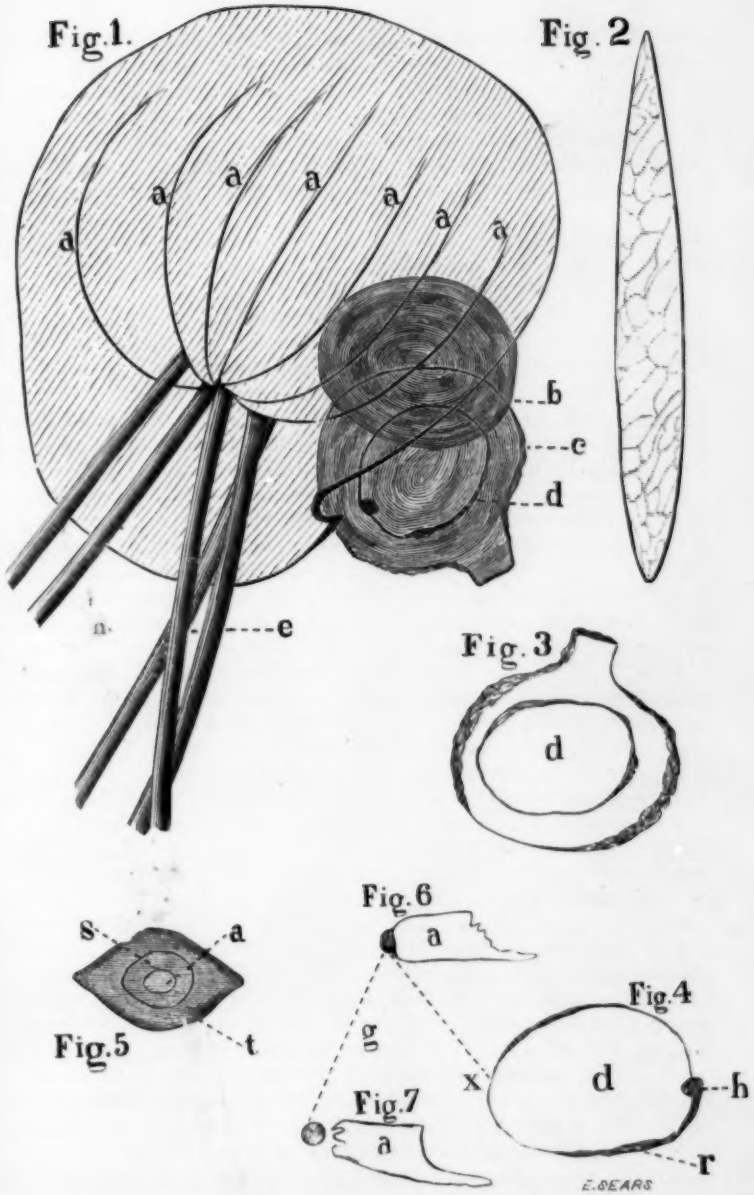
Viola rotundifolia, Mchx.—Not rare on the borders of swamps near Closter. The upright simple scapes produce the perfect flowers which are always abortive; while the prostrate *branching* stems produce fruit in abundance, and are always covered with leaves. C. F. A.

79. **Lythrum lineare**, L.—is this year quite abundant near Little Snake Hill: in prime, Sept. 12th.

Artemisia biennis, Willd.—Seems well established at Stapleton landing, Staten Island. It is a western species, that has lately begun to travel eastward as a weed.

Centaurea Melitensis, L.—I found in a kind of park, on Staten Island: it was obviously only a stray or waif. It has established itself in California, but I never heard of it before on this side of the continent. J. W. Congdon.

80. **Geum strictum**, Ait.; and **Liquidambar** [illegible]**riflua**, L.—are abundant on Long Hill, Chatham, N. J. W. H. L.



SPIRODELA.—(See page 38.)

81. **Aspidium aculeatum**, Swartz, Var. **Braunii**, Koch.—Last July Rev. J. A. Paine and B. D. Gilbert, found this plant in great abundance at Kasoag, Oswego Co. In the summer of 1869, Mr. J. H. Redfield found it in considerable abundance on the Catskills. It might possibly be found among the Highlands.

Isoetes echinospora, Durieu, Var. **Braunii**, (*fide* Engelmann.)—Messrs. Paine and Gilbert also found this plant, on the north side of Oneida Lake, and near it Mr. P. found,

Myriophyllum tenellum, Bigelow.—I believe the only other station in N. Y. is one mentioned in the State Flora as in Westchester Co. I. H. H.

(The State Flora also cites the northern part of the state. We have found it abundant on the edge of the Sacondaga branch of the Hudson, near Northville, Hamilton Co.; and in a pond, in East Lyme, Connecticut. Eds.)

82. **Helianthus angustifolius**, L.—Grows on Long Island, from Bedford Creek to Centreville, and beyond. At the terminus of Centreville Avenue, in the marsh, it is quite plentiful. (Here may be found also *Utricularia cornuta*, Mchx.) The leaves of the taller plants are mostly alternate, sometimes scarcely any being opposite; those of the shorter ones being mostly opposite. It bears some resemblance to *Rudbeckia hirta*.

Chenopodium glaucum, L.—I have found growing in the Clove Road near Flatbush Jail; in Cooper Avenue, near Ridgewood; at the terminus of the Mill Road, New Lots; and in this city, in 63rd & 64th Sts., near Lexington Ave. M. Ruger.

83. **Cornus stricta**, Lam.—This southern species is enumerated by Rawolle and Pilat in their Catalogue of the plants of Central Park, 1857, which do not, however, all seem to be native or naturalized as *Nyssa uniflora*, Walt., another southern species of the same Order, is also contained in their list. Perhaps some error has arisen, as *Lonicera sempervirens*, Ait. is not mentioned by them, though it is certainly a native of that locality; while their description of *L. grata*, Ait., (which no one else reports from the Island of New York,) corresponds better to the former. In *Torr. Cat.*, 1819, *Cornus stricta*, L'Her., *C. fastigiata*, Mchx., is mentioned as growing in wet woods, but is not quoted in the *State Flora;* but at that early date, we presume, (for we have not the authorities at hand,) the distinctions had not been well drawn. Mr. O. W. Morris sends us this name, *C. stricta*, with no author, as among the plants he has noticed on N. Y. Island, but, as Mr. M.'s recollections go back a great many years, he may have been misled in the same way. At all events, we have seen no specimen, and if any one knows of the plant hereabouts, we shall be thankful to receive enlightenment.

84. **Corrigenda.**—Our last No. was disfigured by several misprints. A semicolon should stand before the letters N. Y. in the §§ Œnothera biennis; Ludwigia alternifolia; Hydrocotyle Americana; and Sanicula Canadensis. In § Archangelica atropurpurea, dele; "north of Morrisania, Ruger." p. 35, substitute a comma for the — in l. 2, and place the — after habit in the 3d line; also dele the comma after "in" in l. 3. In §§ 14 and 72 write Wolffia. § 74 for "strigosus" read "neglectus." § 76, l. 2 for "like" read "take."

ZIZIA, DC.—**Z. integerrima**, DC.; English Neighborhood, on rocky hill, ½ mile south of R. R. station, *Austin;* Palisades, *Allen;* Long Hill, *W. H. L.;* N. Y., *O. W. M.;* banks of Hudson from New York to Sing Sing, *Hall.*

DISCOPLEURA, DC.—**D. capillacea**, DC.; common; N. Y., *O. W. M.*

CICUTA, L.—**C. maculata**, L.; common; N. Y.—**C. bulbifera**, L.; salt marshes, Hoboken, *Torr. Cat.;* Swamps, L. I., *Allen;* common about Closter, *Austin;* rare in the neighborhood of N. Y., *State Flora.*

SIUM, L.—**S. lineare**, Mchx.; common, N. Y.; the plant growing in Secaucus Swamp seems to be a variety with one oil tube in the intervals, and less prominent ridges. Probably other forms of this genus might be found in our district.

CRYPTOTÆNIA, DC.—**C. Canadensis**, DC.; common.

CHÆROPHYLLUM, L.—**C. procumbens**, Lam.; Hoboken hills, *Torr. Cat.;* South Jersey, rare, *Austin.*

OSMORRHIZA, Raf.—**O. longistylis**, DC.; common about Closter, *Austin;* Long Hill, Chatham, N. J., *W. H. L.;* common, *Le Roy, Allen;* N. Y., *O. W. M.;* much less common in southern part of the state than the next, *State Flora;* Throgs Neck, and 3 miles above Newark on Passaic, *Hall.*—**O. brevistylis**, DC.; common; N. Y.

CONIUM, L.—**C. maculatum**, L.; not uncommon; N. Y.

ARALIACEÆ.

ARALIA, Tourn.—**A. spinosa**, L.; Old grounds near 4th Ave., Harlem River; Central Park, *Rawolle & Pilat;* Glen Cove, *Coles.*—**A. racemosa**, L.; in shady woods, Long Island, etc., *Torr. Cat.;* common at Closter, *Austin;* Long Hill, N. J., *W. H. L.;* Glen Cove, *Coles;* Central Park, *Rawolle & Pilat.*—**A. hispida**, Mchx.; Secaucus Swamp, *W. H. L.;* Ridgewood Ave., near Bayside Cemetery, *Ruger.*—**A. nudicaulis**, L.; in rich soil among rocks, *Torr. Cat.;* rather common; Closter, *Austin;* Glen Cove, *Coles.*—**A. trifolia**, Gray; common; N. Y.; Closter, *Austin.*

CORNACEÆ.

CORNUS, Tourn.—**C. Canadensis**, L.; New Durham Swamp, *Torr. Cat., Austin;* N. Y., *O. W. M.;* Long Island, *Ruger*, vid. §§ 21, 30, 70; rare.—**C. florida**, L.; common; N. Y.—**C. circinata**, L'Herb.; in rocky situations, N. J., *Torr. Cat.;* common at Closter, habitat same as Zizia, *Austin;* Central Park, *Rawolle & Pilat.*—**C. sericea**, L.; N. Y., *O. W. M.;* common at Closter, *Austin;* Glen Cove, *Coles;* Brooklyn, *Ruger.*—**C. stolonifera**, Mchx.; common at Closter, *Austin;* Central Park, *Rawolle & Pilat;* Woods near Hoboken, *Torr. Cat.*—**C. paniculata**, L'Her.; common; N. Y.—**C. alternifolia**, L.; common; N. Y., *O. W. M.*

NYSSA, L.—**N. multiflora**, Wang.; common; N. Y., *O. W. M.;* Glen Cove, *Coles.*

CAPRIFOLIACEÆ.

LINNÆA, Gronov.—**L. borealis**, Gronov.; used to be found in the recesses of New Durham swamp, N. J., but not recently; some suppose it to have been placed there by Michaux.

LONICERA, L.—**L. sempervirens**, Ait.; not very rare, though curiously not in *Torr. Cat.;* Staten Island and New Durham swamp, *Austin and others;* N. Y., formerly in Jones' Wood, and waste grounds, now the site of Central Park, where it grew luxuriantly, but is not in the catalogue of the Park by *R. & P.;* Glen Cove, *Coles;* Flatbush, *W. H. L.;* Weehawken, *L. R.*—**L. grata**, Ait.; New Durham swamp, *Torr. Cat.;* Central Park, *Rawolle & Pilat;* Glen Cove, *Coles;* thicket near Flatbush jail, 1868, *Ruger.*—**L. parviflora**, Lam.; Closter etc., common, *Austin;* N.Y., *Torr. Cat., O. W. M.;* Preakness, N. J., *Fischer;* Palisades, Secaucus, etc., not uncommon, *W. H. L.*

DIERVILLA, Tourn.—**D. trifida**, Mœnch; Central Park, *R. & P.;* Bloomingdale, *Torr. Cat.;* Piermont, *Austin;* Preakness, *Fischer;* Long Hill, N. J., *W. H. L.;* Glen Cove, *Coles;* not uncommon.

TRIOSTEUM, L.—**T. perfoliatum**, L.; not uncommon, at least in the region of the Palisades and on Long Island and Staten Island. —**T. angustifolium**, L.; is reported from Glen Cove, L. I. We should like very much to see a specimen.

SAMBUCUS, Tourn.—**S. Canadensis**, L.; common; N. Y.—**S. pubens**, Mchx.; common on the Palisades, *Austin;* N. Y., *O. W. M.*

VIBURNUM, L.—**V. Lentago**, L.; common; N. Y.—**V. prunifolium**, L.; common; N. Y.—**V. nudum**, L.; not uncommon; Closter, *Austin;* Long Island, *W. H. L.;* both varieties are found growing together in Secaucus swamp, N. J.; on Staten Island, Var. **Claytoni**, with a rather long peduncle and very glossy leaves, *W. H. L.;* Var. **cassinoides**, N. Y., *O. W. M.*—**V. dentatum**, L.; common; N. Y.—**V. pubescens**, Pursh; on rocky hills, *Torr. Cat.;* not rare about Closter, *Austin;* Preakness, *Fischer.*—**V. acerifolium**, L.; common; N. Y.—**V. lantanoides**, Mchx.; rocky woods, Manhattanville, etc., *Torr. Cat.;* N. Y., *O. W. M.*

RUBIACEÆ.

GALIUM, L.—**G. aparine**, L.; common; N. Y., *O. W. M.;* very abundant in the woods at the foot of the cliffs, Patterson, *Forman;* very common on Palisades, *Austin.*—**G. Mollugo**, L.; Inwood, N. Y., *W. W. Denslow.*—**G. asprellum**, Mchx.; common; N. Y., *O. W. M.* —**G. trifidum**, L.; common; Closter, *Austin;* New Jersey and Staten Island, *W. H. L.*—**G. triflorum**, Mchx.; common; N. Y.—**G. pilosum**, Gray; common; Closter, *Austin;* Jamaica, *W. H. L.* —**G. circæzans**, Mchx.; common; N. Y., *O. W. M.*—**G. lanceolatum**, Torr.; common at Closter, *Austin;* Long Hill, N. J., *W. H. L.;* woods and rocks, *Torr. Cat.*—**G. verum**, L.; N. Y., *O. W. M.*

DIODIA, L.—**D. teres**, Walt.; common in N. J.; Closter, *Austin;* N. Y., *Le Roy, O. W. M.;* Tottenville, Staten Island, *W. H. L.*

CEPHALANTHUS, L.—**C. occidentalis**, L.; common; Glen Cove, *Coles;* N. Y., *O. W. M.*

MITCHELLA, L.—M. repens, L.; common every where in woods; N. Y.

OLDENLANDIA, Plumier, L.—O. glomerata, Mchx.; N. Y., *O. W. M.;* Bloomingdale and Brooklyn, *State Flora;* Closter, not rare, *Austin.*

HOUSTONIA, L.—H. purpurea, L.; New Jersey, *Torr. Cat.;* Var. longifolia, abundant on Long Island, near Jamaica, Hempstead etc.—H. cærulea, L.; common along Passaic, but does not occur near Closter, *Austin;* Staten Island.

VALERIANACEÆ.

VALERIANA, Tourn.—V. officinalis, L.; vid. § 52.

FEDIA, Gærtn.—F. olitoria, Vahl.; cultivated grounds, Inwood, N. Y., *W. W. Denslow.*—*F. radiata,* Michx.; fields, *Torr. Cat.;* is probably an error for the former.

DIPSACEÆ.

DIPSACUS, Tourn.—D. sylvestris, Mill.; not uncommon; Glen Cove, *Coles.*—D. Fullonum, L.; Orange Co., rare, *Austin.*

85. Spirodela.—In reply to a recent communication of specimens, we have received the following letter from Dr. Engelmann. Although he thinks the publication unnecessary, we yet venture to print it, as he differs from Mr. Austin in relation to the endopleura, and, of course, the subsequent terms of the series. Mr. Austin notified us, that he had not had access to his materials for comparison with other species.

St. Louis, Nov. 13, 1870.

Dear Sir: Only to day I finished the examination of your interesting Lemna. As Prof. Hegelmeier, the accurate monographer of the family, will no doubt give us a full description and figure of this plant, from your specimens, I think it superfluous to try to anticipate him in a much less complete and satisfactory manner, but I may say that,

The fertile fronds are unusually small, only 2½–3¼ mm. in the longer diameter, mostly with 5–6 ribs, or at most 7; and with 3—5 or sometimes 6 roots. *Foliaceous organs;* spiral vessels, (even in the roots,) pigment cells, and both forms of crystals, acicular and glomerate, as in the common form of *polyrrhiza;* stomata smaller, only 0.14—0.16 mm. in larger diameter, (whereas in that they are 0.20—0.25 mm. long.)—*Spathe* a complete sac as in *Lemna trisulca, gibba,* and *minor;* not a mere circular bract, as in *L. paucicostata* and others.—*Anthers,* ⅓ mm. in transverse diameter, larger than those of other species, different from those of all Lemnæ, (and thus confirming the genus Spirodela,) by longitudinal and not transverse dehiscence, as, in fact, Hegelmeier already surmises from Griffith's coarse but reliable figures of the East Indian plant. *Pollen grains* spirnulose, as in the whole family, as often elliptical as globose, 0.018—0.023 mm. in the different diameters and sizes; smaller than those of our *Lemna paucicostata,* (0.023—0.027 mm.)—*Pistil,* as well as anthers and utricle, strongly dotted with purple, in alcohol, brown,) subcuticular cells—*ovule,* hemitropous; hori-

zontal, as in *L. minor;* and, in the 10 or 12 flowers now examined, *always single;* spiral vessels in funiculus, which only occurs again in *L. gibba*, in this family; exostome, almost closed, while in all others it is open or even (in *L. paucicostata* and *perpusilla*,) incomplete, the endostome strongly protruding.—*Seed* horizontal and slightly compressed, the dark spot of the chalaza distinctly visible, even through the utricle, and, as in all 1-ovuled species of Lemna, directed backward to the base of the frond; raphe distinct, no spiral vessels observed in it; seed (apparently—the specimens examined were not completely matured—) smooth as in Wolffia, not ribbed as in Lemna; cellular spongy testa very thick; operculum distinct; endopleura, as usual in Lemnæ, dark brown, thin; endosperm, (albumen,) considerable.—*Embryo*, cylindric almost as long as the seed, as usual in the family, [what Austin calls albumen "a," his "s" is the starchy albumen, what he calls embryo, is the plumule.]

I take it to be a one ovuled small form of S. polyrrhiza.

In all the specimens examined, I find the singular circumstance of the first (anterior) stamen only being developed and protruding, (but never as far as in other species,) and the second or posterior one and the pistil being enclosed. Is this owing to the hour of the day when collected? It would be worth while to find out, whether in Lemna the first stamen may be developed in the morning, and the second at noon or in the afternoon.

Yours truly, G. Engelmann.

86. **Imitation.**—Darwin, Wallace, and others, have pointed out numerous cases of imitation in nature for purposes of protection. An instance of imitation for offence recently fell under my observation. My attention was attracted by a wasp suspended from a panicle of Solidago. I at first supposed that the flower had in some way entrapped him, but, on closer inspection, found that he was in the fangs of a yellow spider of precisely the color of the blossoms.

W. H. L.

87. **The Club**—meets at the Herbarium in Columbia College, 49th Street, the last Tuesday in every month. Botanists are invited to attend.

88. **Exchanges.**—Among our correspondents are a number who wish to make exchanges. We propose occasionally to give a few lines to announcements of this sort.—Dr. Henri Van Heurck, Antwerp, Belgium; Phænogams.—S. B. Mead, Augusta, Ill.; the rarer plants in Gray, particularly for the novelties about New York. We have a list of his desiderata, which we shall be pleased to show to those of the Club desiring it.

89. **Migrations.**—Rev. D. R. Shoop, of Bellevue, Michigan, who is pretty familiar with the general run of plants in the western part of the region covered by Gray's Manual, and has botanized a good deal in Central and West New York, writes me that, "*Leucanthemum vulgare*, Lam., is now established in portions of every state east of the Mississippi, except, it may be, Wisconsin. It has emigrated westward from all the seaboard states. I found it four miles

south of Ann Arbor, Mich., in 1863. I saw it also this summer in the N. W. corner of Livingston Co. in abundance in three or four fields, and some weeks ago I found a few specimens about five miles north of Bellevue. *Ranunculus acris*, L., I saw also this summer from 10 to 16 miles north of here, the only place where I have ever seen it established west of New York. In the way of immigrations, *Hibiscus militaris*, Cav., and *Dysodia chrysanthemoides*, Lag., have established themselves at Joliet, Ill., and *Artemisia biennis*, Willd., now abounds in many places in this state. You may look for the latter in New York in a few years. [Vid. § 79.] Where I have seen it here, it is evident that it is not indigenous, but an emigrant from the west." Sept. 19th, I. H. H.

90. **Hedera Helix**, L.—Does any one know of this plant spreading in our district?

91. **Aseyrum Crux-Andreæ**, L.—1868, Babylon, L. I., near the mill pond, east of the village, along with

Polygala lutea, L.—and also south of the road, in front of Higbie's tavern,

Sesuvium Portulacastrum, L., Var. **pentandrum**, July 21, 1870.

Blitum Bonus-Henricus, Reichenbach,—same date, East Hampton, L. I., south side of Hook Pond, to the right of the bridge, going from the village to the sea shore, with *Spergularia media*, Presl.

Drosera filiformis, Raf.—road side, about ¾ mile east of Sag Harbor, on the way to East Hampton.

Nabalus racemosus, Hook.—Sept. 29, 1870, Scarsdale, Westchester Co., on the farm of Mr. Charles Butler.

Perhaps these stations are mostly too remote. J. S. Merriam.

92. **Podophyllum peltatum**, L.—I had never seen in Westchester Co., until a few plants were introduced some years ago by the importation of fruit trees from Central N. Y. The plants grow vigorously, but, though they flower, they have as yet produced no fruit. G. J. Fischer, M. D.

[Yet they ripen fruit in the neighboring parts of Connecticut, e. g. in Greenwich, which is within our limits. *Eds.*]

93. **Archemora rigida**, DC.—Staten Island, marshes near Linden Park station, the only locality known in this part of the state, *W. H. L.*—**Æthusa Cynapium**, L.; Flushing, *T. F. A.*

94. **Houstonia cærulea**, L.—This plant is only reported from the banks of the Passaic and from Staten Island, but we have a strong impression that it occurs on New York Island, and in other localities in our district. Can any one give us certainty on this point?

95. **Compositæ**.—We are deficient in data respecting several genera of this Order, particularly the Asters, and more especially, No's 4, 15, 16, 19—24 of Gray's Manual, 5th edition. We hope for assistance

96. The Club.—During the summer of 1866, two enthusiasts frequently knocked at the door of Dr. Torrey's Herbarium in Columbia College. They were always greeted with two hands, and derived great pleasure in discussing some new plant found in the vicinity, or in comparing curious varieties and sports of familiar species. They had heard vague rumors of the existence of other collectors, rumors confirmed by the mysterious disappearence of a secluded patch of *Cardamine pratensis*, which had been left a few days to perfect. The desire was frequently expressed to try to assemble these workers; so the effort was made. The meetings gradually increased in size and interest, until it became evident that we possessed a working force. The Torrey semi-centennial of Dec. 20th, 1867, still further united the members, and the present organization was effected.

The following is a list of the officers and members of the club. As the association is rather informal, and somewhat fluctuating, we hope that errors and deficiencies will be pardoned. We have lost by death one member, W. W. Denslow, one of the earliest, most enthusiastic, and, with the disadvantage of feeble health, one of the most indefatigable. No one had studied so carefully the plants on the northern end of this island: unfortunately we have but a partial report of his observations.

Officers.

JOHN TORREY, M. D., LL. D.,.....*Chairman.*

P. V. LE ROY,.....*Secretary.* | T. F. ALLEN, M. D.,..*Curator.*

W. H. LEGGETT,.....*Editor.*

Members.

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BOWER, WM.	GROSS, O. R.	REDFIELD, J. H.
BUCHANAN, I.	HALL, I. H.	ROCKWITH, F. A.
BUMSTEAD, F. J.	HOGG, JAS.	RUGER, M.
DAY, W. DE F.	HYATT, JAS.	TORREY, JOHN.
DARBY, JOHN.	LEGGETT, WM. H.	THURBER, GEO.
DENSLOW, HERBERT.	LE ROY, P. V.	WARD, JAS. W.
EATON, D. C.	MERRIAM, JAS. S.	WILBUR, G. M.
FISCHER, W. L.	MORRIS, O. W.	

97. **An Autumn Ramble.**—On the 15th of October last, almost a summer afternoon, in company with Paul, aged seven, a botanist of some experience and expertness, though, it must be confessed, rather illiterate, we strolled towards the shore from Linden Park station, on the Staten Island R. R.

The first object that attracted us was a Pin Oak, *Quercus palustris*, Du Roy. We found the small, dark colored acorns just ready to drop out of the shallow cups, which, in this example, were contracted into the scaly base mentioned by Gray as occasional. From

the apex of the acorn radiate numerous light colored lines, similar to those described in the State Flora as marking the gland of *Q. ilicifolia*, but in our subject quite distinct; we have before noticed these marks in the Pin Oak fruit, but do not remember to have seen them mentioned in the books; nor does Torrey's "light brown" well describe our acorns, which are decidedly blackish; in shape they are flattened globose.

Towering over the surrounding brush were seen the dry candelabrum like arms of *Lilium superbum*, L., each supporting its oblong pod. These arms form a considerable angle with the main stalk, and yet the pods are all vertical: this seems the more extraordinary as the plant bears nodding flowers. Upon examining one of these branches, or, rather, long peduncles, we find that, about an inch below the pod, it has taken an upward turn, so as to give the fruit its upright position; and, still lower down, are evident traces of the bend of the flowering season in the opposite direction; so that the end of the stalk must have moved through nearly 180 degrees, in the interval between the opening of the flowers and maturing of the fruit. The pods are now open at the top, the cells being completely separated for about one third of the way down, (*septicidal*,) and being, likewise, split down the back, (*loculicidal*); but these latter openings, which alone penetrate the interior of the cells, are guarded by a kind of lace work, sufficiently fine to prevent the seeds from escaping in that way, but affording free access to the wind. The effect of this splitting of the pod is to make the opening at the top wider. Each of the three cells is filled with thin flat seed, wedge shaped on the inner side, and rounded on the other, like the sector of a circle; the larger part of each consists of a broad wing. Their color is pretty and peculiar, being very nearly that of gold lacquer. On trying to empty them out by inverting the pod, we found, that they choked up the outlet, and did not readily escape that way; but when the pod was held erect, and sprung, as it might be by the wind, they flew out of the top freely. The tall stalks of this lily offer a prominent object for the winds of autumn to shake, and thus disperse the seed, the broad grated openings in the side and the light wings favoring. We counted about 250 seed in one pod. We did not think to count the capsules on a plant, but there were probably 8 or 9, (Dr. Gray says there are sometimes 40 blossoms.) We have occasionally for years taken this same walk, and yet do not observe any increase in the quite limited number of lilies. Are we to suppose that the ground is full of young bulbs, ready to grow when their competitors leave them an opening; or that the great adaptation for dispersion shows that the conditions of germination are far to seek?

Many other objects, some of special interest, attracted us, but we have no more space at present.

We missed the cars on our return, and had to walk some three miles to the steamboat; but my young friend did not seem to find it wearisome, while listening to the story of the sturdy fellow of yore who sought botanical treasures in the garden of the Hesperides—some Staten Island with golden seeded lily pods.

98. **Lespedeza procumbens**, Mchx.—Staten Island near Stapleton, *Forman.*—**Diodia teres**, Walt.; East New York, *Ruger.*

99. **Corrigenda.**—p. 40, in § Aralia hispida, read Ridgewood aqueduct;—p. 42, 9th line from bottom, read Lemnæ; 5th line from bottom, read spinulose; 3d line from bottom, read *paucicostata;*—p. 43, 2nd line from top for "fasciculas" read funiculus; ll. 14 and 15 substitute semicolons for the commas after "a" and "albumen";—p. 44, the locality assigned to Blitum should have been given to Sesuvium, and that of Blitum should be, "Roadside in East Hampton village."—§ 93, read Æthusa Cynapium.—§ 94, read certainty.

COMPOSITÆ.

VERNONIA, Schreb.—**V. Noveboracensis**, Willd.; common every where; N. Y.

LIATRIS, Schreb.—**L. scariosa**, Willd.; swamps, N. J., *Eddy in Torr. Cat.;* Suffolk Co., L. I., *State Flora, Allen;* banks of Harlem River, near Sixth Av., with *Solidago rigida & S. speciosa.*—**L. spicata**, Willd.; Staten Island, *State Flora;* ½ mile W. of Norwood, N. J., *Austin;* Morris Co., N. J., *W. H. L.*

EUPATORIUM, Tourn.—**E. purpureum**, L.; common in low or wet grounds; N. Y.—**E. hyssopifolium**, L.; Long Branch, *Torr. Cat.*, and Red Bank, N. J., *W. H. L.;* Queens Co., *Willis in State Flora;* Glen Cove, *Coles;* Liberty Av. near Jamaica, *Ruger;* and Suffolk Co., L. I., *Allen.*—**E. leucolepis**, Torr. & Gr.; not reported nearer than Sag Harbor, *State Flora.*—**E. album**, L.; South River, N. J., *Bumstead & Leggett;* Edward's Pond, Suffolk Co., L. I., *W. H. L.*—**E. teucrifolium**, Willd.; common everywhere else, but not reported from Westchester Co.; varies much, sometimes with a large corymb.—**E. rotundifolium**, L.; Queens Co., L. I., *Willis in State Flora;* Tottenville &c., Staten Island, *W. H. L.;* South Amboy, *Allen.*—**E. pubescens.** Muhl.; Rossville &c., Staten Island; perhaps only a form of the preceding, if these species are distinct; the mature flowers were not obtained, but in the bud there were about seven florets, *W. H. L.*—**E. sessilifolium**, L.; Palisades, *Austin;* Glen Cove, *Coles;* not seen on this end of L. I., *Ruger;* High Bridge, *Allen;* Central Park, *R. & P.;* Kingsbridge hills, with a short but decided petiole; Staten Island, *W. H. L.*—**E. resinosum**, Torr.; Queens Co., L. I., *Willis in State Flora.*—**E. perfoliatum**, L.; every where common; N. Y.—**E. ageratoides**, L.; common; N. Y.—**E. aromaticum**, L.; rocky woods, N. J., *Torr. Cat.*; on Long Island, about a mile from South Ferry, *State Flora;* near Richmond Hill, South Side R. R., *Ruger;* Hempstead, *Allen;* Staten Island, New Dorp, *Allen.*

MIKANIA, Willd.—**M. scandens**, L.; common; N. Y.

TUSSILAGO, L.—**T. Farfara**, L.; Carmansville, but station probably destroyed, *W. H. L.;* N. Y., *O. W. M.*

SERICOCARPUS, Nees.—**S. solidagineus**, Nees; Woods and copses, *Torr. Cat.;* Closter, common, *Austin;* Suffolk Co., L. I., *Allen.*—**S. conyzoides**, Nees; common; N. Y.

ASTER, L.—**A. corymbosus**, Ait.; very common; N. Y.—**A. macrophyllus**, L.; Fordham, *W. H. L.;* Bloomingdale, *Torr. Cat.;* N. Y., *O. W. M.;* Closter, common, *Austin;* Chatham, N. J., Astoria, *W. H. L.*—**A. spectabilis**, Ait.; Queens Co., *Willis in State Flora;* Islip, *Allen & Leggett;* South River, N. J., *Bumstead & Leggett;* N. Y., *O. W. M.*—**A. concolor**, L.; Queens Co., *Willis in State Flora;* Centreville and beyond, L. I., *Ruger;* N. Y., *O. W. M.;* South Amboy.—**A. patens**, Ait.; common; N. Y.: Var. **phlogifolius**; Tarrytown, *Hall;* Weehawken, and Long Hill, N. J., Staten Island, *W. H. L.*—**A. lævis**, L.; common; N. Y.: Var. **lævigatus**; near Greenwood Cemetery, *W. H. L.;* Glen Cove, *Coles:* Var. **cyaneus**; N. Y.; Coney Island R. R., *W. H L.;* Glen Cove, *Coles.*—**A. undulatus**, L.; Closter, *Austin;* Summit, N. J., *W. H. L.;* N. Y., *O. W. M.;* Staten Island, Jamaica, and Sand's Point, L. I., *W. H. L.;* South River, N. J., *Bumstead.*—**A. cordifolius**, L.; very common; N. Y.—**A. sagittifolius**, Willd.; Snake Hill, *Allen;* Summit, N. J., Staten Island, *W. H. L.*—**A. ericoides**, L.; very common; N. Y.—**A. multiflorus**, Ait.; Harlem River, &c.; Central Park, *R. & P.;* Glen Cove, *Coles;* East New York, Gravesend, &c., Communipaw, *W. H. L.*—**A. dumosus**, L.; Hempstead, *Eaton & Bumstead;* Rockaway, L. I., and Staten Island, *W. H. L.;* N. Y., *O. W. M.;* Closter, *Austin.*—**A. Tradescanti**, L.; very common; N. Y.—**A. miser**, L., Ait.; very common; N. Y.—**A. simplex**, Willd.; N. Y., *O. W. M.;* Passaic, *Allen;* Closter, *Austin;* Hart's Corners, Westchester Co., and Hempstead, L. I., *Eaton & Bumstead.*—**A. tenuifolius**, L.; Closter, *Austin;* Gravesend and Astoria, L. I., *W. H. L.*—**A. carneus**, Nees, ?; near Newark Bay, Pamrapo, *W. H. L.*—**A. longifolius**, Lam.; common; N. Y., *O. W. M.;* not reported from Westchester Co.—**A. puniceus**, L.; common; N. Y.—**A. Novæ-Angliæ**, L.; common along fences and road sides; N. Y., *O. W. M.*—**A. acuminatus**, Mchx.; ½ mile S. S. W. of Closter station, N. R. of N. J., *Austin;* without locality, *Allen.*—**A. nemoralis**, Ait.; New Durham swamp, *Torr. Cat.;* Staten Island, *Austin;* N. Y., *O. W. M.*—**A. flexuosus**, Nutt.; common in salt marshes; N. Y., *O. W. M.*—**A. linifolius**, L.; common in salt marshes; N. Y.

ERIGERON, L.—**E. Canadense**, L.; too common; N. Y.—**E. bellidifolium**, Muhl.; common; N. Y.—**E. Philadelphicum**, L.; in woods and old fields, *Torr. Cat.*, [but very rare now]; *Le Roy;* N. Y., *O. W. M.;* Central Park, *R. & P.;* Glen Cove, *Coles;* not about Closter, never saw it E. of Susquehannah valley, *Austin.*—**E. annuum**, Pers.; very common; N. Y.—**E. strigosum**, Muhl.; very common; N. Y.

DIPLOPAPPUS, Cas.—**D. linariifolius**, Hook.; common; N. Y., *O. W. M.*—**D. umbellatus**, Torr. & Gr.; Closter, *Austin;* New Durham swamp, &c.; Glen Cove, *Coles;* rather common.—**D. cornifolius**, Darl.; Tappan, *Austin;* Astoria, L. I., Chatham, N. J., *W. H. L.*